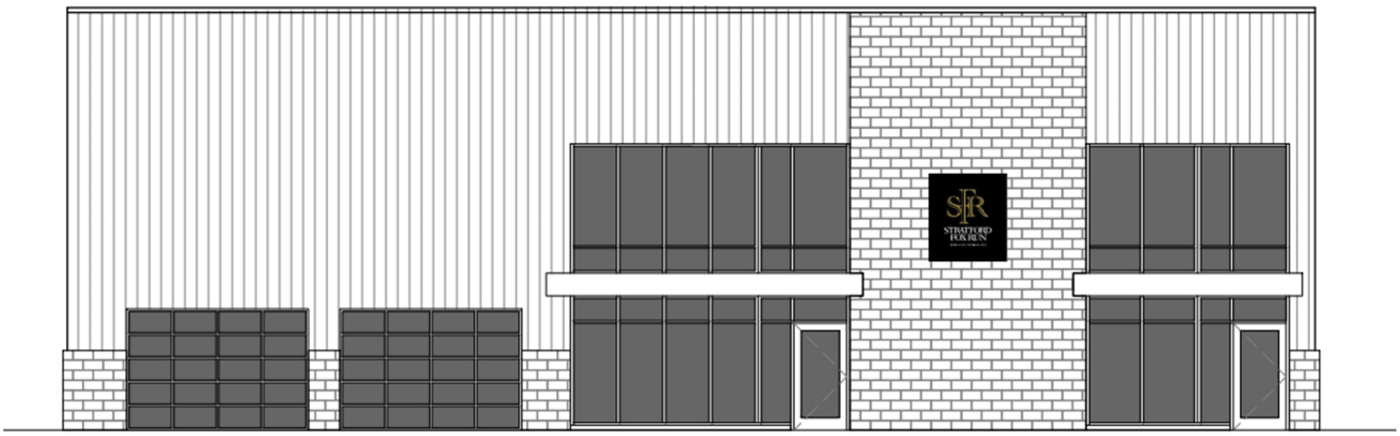
SERVICING & STORMWATER MANAGEMENT REPORT
DISTILLERY - 5923 OTTAWA STREET



Project No.: CCO-25-0415

City File No.:

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egis

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Appendices

1.0 PROJECT DESCRIPTION

1.1 Purpose

Egis Canada (Egis) has been retained by 99117756 Canada Inc. to prepare this Servicing and Stormwater Management Report in support of the Site Plan Control process for the proposed development located at 5923 Ottawa Street within the City of Ottawa.

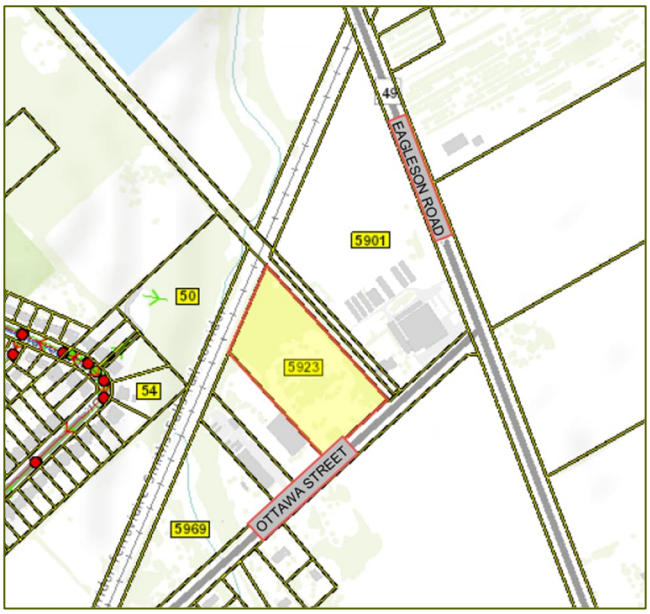
The main purpose of this report is to present a servicing design for the development in accordance with the recommendations and guidelines provided by the City of Ottawa (City), the Rideau Valley Conservation Authority (RVCA), and the Ministry of the Environment, Conservation and Parks (MECP). This report will address the water, sanitary, and storm sewer servicing for the development, ensuring that proposed services will adequately service the development.

This report should be read in conjunction with the following drawings:

- CCO-25-0415, C101 – Lot Grading and Drainage Plan,
- CCO-25-0415, C102 – Site Servicing Plan,
- CCO-25-0415, C103 – Erosion & Sediment Control Plan,
- CCO-25-0415, PRE – Pre-Development Drainage Area Plan (Appendix 'E'), and
- CCO-25-0415, POST – Post-Development Drainage Area Plan (Appendix 'F').

1.2 Site Description

Figure 1: Site Map



The property is located at 5923 Ottawa Street within the City of Ottawa. It is described as Part of Unit 10, Index Plan D-26, geographic township of Goulbourn, City of Ottawa. The land in question covers approximately 2.27 ha and is located near the intersection of Ottawa Street and Eagleson Road. See Site Location Plan in Appendix 'A' for more details.

1.3 Proposed Development and Statistics

The proposed development consists of two phases. Phase 1 covers 1.17 ha and proposes a new 651 m^2 ground-floor area building with a distillery/warehouse, restaurant, and retail space. Phase 2 covers 1.10 ha and proposes a new 926 m^2 ground-floor area brewery building. Parking and drive aisles will be provided throughout each phase along with landscaping around the perimeter of the development area. The development will be accessed via the proposed site entrances from Ottawa Street.

1.4 Existing Conditions and Infrastructure

The existing site is currently undeveloped with no available municipal services. A municipal ditch fronts the subject site along Ottawa Street. The Smiths Falls Rail Corridor is located northwest of the subject site.

1.5 Approvals

The proposed development is subject to the City of Ottawa site plan control approval process. Site plan control requires the City to review, provided concurrence and approve the engineering design package. Permits to construct can be requested once the City has issued a site plan agreement.

An Environmental Compliance Approval (ECA) through the Ministry of Environment, Conservation and Parks (MECP) will be required based on the proposed industrial usage of the site. An ECA application will be submitted following concurrence from the City on the grading, servicing, and stormwater management design.

2.0 BACKGROUND STUDIES, STANDARDS, AND REFERENCES

2.1 Background Reports / Reference Information

Background plans and studies that have been completed for the proposed site are listed below:

- Plan of Survey, drawing CCO-25-0415 Ottawa St, prepared by Egis Surveying Inc. and dated July 9, 2024.
- Site Plan, drawing A-001, prepared by N45 Architecture Inc. and dated July 29, 2025.
- Geotechnical Investigation, Proposed Commercial Development, prepared by Paterson Group, and dated July 9, 2025.
- Ditch Hydrologic and Hydraulic Analysis, prepared by JFSA, and dated September 10, 2025

- Sewage System Layout Plan, Drawing PH4924-1(rev.4), prepared by Paterson Group, and dated August 14, 2025
- 5923 Ottawa Street Occupancy Alternative Solution Roadmap memorandum, prepared by LRI, and dated August 21, 2025
- 5923 Ottawa Street Distillery water Storage Volume Estimate, prepared by LRI, and dated August 21, 2025
- Village of Richmond Environmental Management Plan, dated June 17, 2010.

2.2 Applicable Guidelines and Standards

City of Ottawa:

- Ottawa Sewer Design Guidelines, City of Ottawa, SDG002, October 2012. (Ottawa Sewer Guidelines)
  - Technical Bulletin ISTB-2014-01 City of Ottawa, February 2014. (ISTB-2014-01)
  - Technical Bulletin PIEDTB-2016-01 City of Ottawa, September 2016. (PIEDTB-2016-01)
  - Technical Bulletin ISTB-2018-01 City of Ottawa, January 2018. (ISTB-2018-01)
  - Technical Bulletin ISTB-2018-04 City of Ottawa, March 2018. (ISTB-2018-04)
  - Technical Bulletin ISTB-2019-02 City of Ottawa, February 2019. (ISTB-2019-02)
  - Technical Bulletin IWSTB-2024-04 City of Ottawa, September 2024. (ISTB-2024-04)
- Ottawa Design Guidelines – Water Distribution City of Ottawa, July 2010. (Ottawa Water Guidelines)
  - Technical Bulletin ISD-2010-2 City of Ottawa, December 15, 2010. (ISD-2010-2)
  - Technical Bulletin ISDTB-2014-02 City of Ottawa, May 2014. (ISDTB-2014-02)
  - Technical Bulletin ISTB-2018-02 City of Ottawa, March 2018. (ISTB-2018-02)
  - Technical Bulletin ISTB-2021-03 City of Ottawa, August 2021. (ISTB-2021-03)
  - Technical Bulletin IWSTB-2024-05 City of Ottawa, November 2024. (IWSTB-2024-05)

Ministry of Environment, Conservation and Parks:

- Stormwater Planning and Design Manual, Ministry of the Environment, March 2003. (MECP Stormwater Design Manual)
- Design Guidelines for Sewage Works, Ministry of the Environment, 2008. (MECP Sewer Design Guidelines)

Other:

- Water Supply for Public Fire Protection, Fire Underwriters Survey, 2020. (FUS Guidelines)

3.0 PRE-CONSULTATION SUMMARY

A pre-consultation meeting was conducted on March 21st, 2024, regarding the proposed site. Specific design parameters to be incorporated within this design include the following:

- Control post-development flows to the 2-year pre-development peak flow rate with C=0.5 or existing, whichever is lesser, for all storms up to and including the 100-year storm event.
- Quality control to be provided up to an enhanced level of treatment (80% TSS Removal).

The notes from the City of Ottawa can be found in Appendix 'B'.

4.0 WATER SERVICING

4.1 Existing Watermain

The subject site is currently undeveloped with no access to a municipal watermain. Neighbouring properties are serviced by private wells.

4.2 Proposed Water Servicing

A new private drilled well and pump system is proposed within each phase to provide the development with domestic water supply. The wells, which will be designed and specified by others, will be included on the Servicing Plan once the location has been confirmed. As the development will be phased, it is proposed to temporarily service the Phase 2 building via the Phase 1 well. After the Phase 2 well is drilled, the service from the Phase 1 well will be abandoned and both buildings will be independently serviced. Please refer to the Hydrogeological Report and Terrain Analysis completed by Paterson Group for well capacity discussion.

Although the building will be serviced via a drilled well and pump system as described above, water demands based on occupancy areas are provided below for information purposes only. The water demands have been calculated to adhere to the Ottawa Design Guidelines – Water Distribution manual and can be found in Appendix 'C'.

Table 1: Water Supply Design Criteria and Water Demands

Proposed Development	Phase 1	Phase 2
Site Area	1.17 ha	1.10 ha
Commercial	28,000 L/gross ha/day	
Commercial Peaking Factor (Max Day)	1.5 x avg. day	
Commercial Peaking Factor (Peak Hour)	1.8 x max. day	
Industrial	35,000 L/gross ha/day	
Industrial Peaking Factor (Max Day)	1.5 x avg. day	
Industrial Peaking Factor (Peak Hour)	1.8 x max. day	
Average Day Demand (L/s)	0.02	0.04
Maximum Daily Demand (L/s)	0.04	0.06
Peak Hourly Demand (L/s)	0.06	0.11

Fire protection is proposed to be provided by a remote fire protection system comprised of underground water storage tanks, dry hydrants, and a 150 mm diameter private watermain. The underground storage tanks will provide water to the building sprinkler systems as well as the dry hydrants. Both buildings will be equipped with fully supervised sprinkler systems, which require a supervisory signal to indicate conditions that could impair the operation of the system, as well as a water flow alarm to indicate the sprinkler system has been activated. The alarms must be sent to approved receiving facilities identified by the Fire Underwriters Survey.

The minimum required on-site storage volume was determined by LRI and provided in the 5923 Ottawa Street Distillery Water Storage Volume Estimate memo. The recommended on-site storage volume was determined by applying the Superior Tanker Shuttle reduction of 1,900 L/min to the NFPA13 mandated fire duration. The results are summarized in Table 2, below.

Table 2: On-Site Storage Volume Summary

Proposed Development	Phase 1	Phase 2
OBC Flow Rate Requirement	5,400 L/min	5,400 L/min
OBC Volume Requirement	177,100 L	173,949 L
NFPA13 Volume Requirement	288,442 L	242,574 L
NFPA13 Evaluation w/Superior Tanker Shuttle Service Reduction	118,117 L	129,024 L

As per Table 2, above, a minimum on-site water supply of 130,000 litres has been recommended by LRI. Please refer to the 5923 Ottawa Street Distillery Water Storage Volume Estimate prepared by LRI and included within Appendix 'C' for additional information.

On-site storage for both phases is proposed to be provided by shared underground concrete water storage tanks connected to two dry hydrants as well as the building sprinkler systems The underground water storage tanks will be located adjacent to the Phase 2 layby area, and will include a draw pipe and chute as per City of Ottawa Figure 5, Figure 10, and standard drawings W51 and W52. A total of three 45,000 litre Boyd Bro's concrete water storage tanks are proposed for a total on-site storage volume of 135,000 litres. Each phase will include a layby area near the site entrance adjacent a private hydrant for firefighting access. A Siamese connection will be located within 45m of each layby area to allow Ottawa Fire Services to supplement sprinkler supply as required.

Please refer to the Site Servicing plan for more information on the servicing layout.

As the site contains high groundwater, a buoyancy review of the underground storage tanks was completed by Paterson Group. Paterson has indicated that ballasting blocks will be required to mitigation flotation of the tanks. Additional details will be provided once the servicing layout is approved and the tank locations are final.

5.0 SANITARY SERVICING

5.1 Existing Sanitary Sewers

The subject site is currently undeveloped with no access to a municipal sanitary sewer. Neighbouring properties are serviced by private septic systems.

5.2 Proposed Sanitary Servicing

A new septic bed located north of the proposed buildings will be installed for each phase and sized to accommodate the development.

Total Daily Design Sanitary Sewage Flow (TDDSSF) for Phases 1 and 2 was calculated by Paterson as 9,367 L/day and 600 L/day, respectively. It is understood that approval of on-site septic treatment will be governed by OBC, as the Daily Design Flow for each system will be less than 10,000 L/day. Refer to the septic design completed by Paterson Group, which has been submitted to the Ottawa Septic System Office (OSSO) and approved through Septic File #25-176 and #25-177. The permits can be found within Appendix 'D'.

In summary, both the Phase 1 and Phase 2 systems have been designed using Class 4 raised leaching beds in combination with an Eljen GSF treatment system.

Phase 1 will treat up to 9,367 L/day of Effluent. The Phase 1 system will include a 28,101 L pretreatment tank and an 18,500 L balancing tank complete with a time operated control panel. The sanitary service exiting the building will be 100 mm diameter and sleeved through a 150 mm diameter pipe overlain by rigid insulation boards.

Phase 2 will treat up to 600 L/day of Effluent. The Phase 2 system will include a 3,600 L pretreatment tank and a 450 L balancing tank complete with a time operated control panel. The sanitary service exiting the building will be 100 mm diameter and sleeved through a 150 mm diameter pipe overlain by rigid insulation boards.

As the site contains high groundwater, a buoyancy review is required to mitigate flotation of the septic tanks. As per the Response to City Comments memorandum provided by Paterson Group and dated August 20th, 2025, this review was completed as part of the Sewage System Design process and no further action was deemed to be required.

For further design information pertaining to the on-site sewage system, please refer to the septic design completed by Paterson Group.

Although the building will be serviced via a septic system as described above, sanitary demands based on occupancy areas are provided below for information purposes only. The sanitary demands have been calculated to adhere to the Ottawa Sewer Design Guidelines and can be found in Appendix 'C'. Within the demand calculations, the restaurant area for Phase 1 has been increased to account for outdoor patio seating. The development area was considered instead of the full property area to provide a more reasonable infiltration

allowance estimate, as only a fraction of the property is being developed, and it is unlikely that downstream areas located a significant distance from the septic system will result in increased infiltration.

Sanitary Demand Criteria are listed in Table 3, below.

Table 3: Sanitary Design Criteria

Design Parameter	Value
Phase 1 Development Area	0.48 ha
Phase 2 Development Area	0.45 ha
Commercial Area	280 L/person/day
Industrial – Light Area	35,000 L/gross ha/d
Restaurant Area	125 L/ (9.2 m^2/d)
Institutional/Commercial Peaking Factor	1.5
Extraneous Flow Allowance	0.33 L/s/ha

Table 4, below, summarizes the estimated wastewater flow from the proposed development. Refer to Appendix 'D' for detailed calculations.

Table 4: Summary of Estimated Sanitary Flow

Design Parameter	Total Flow (L/s)	
	Phase 1	Phase 2
Total Estimated Average Dry Weather Flow	0.10	0.04
Total Estimated Peak Dry Weather Flow	0.14	0.05
Total Estimated Peak Wet Weather Flow	0.27	0.17

As mentioned above, sanitary demand calculations based on the Ottawa Sewer Design Guidelines are provided for information only. The sanitary design and septic demand have been completed by Paterson Group based on Ontario Building Code requirements.

6.0 STORM SEWER SERVICING

6.1 Existing Storm Sewers

There are no existing storm sewers within the subject site or the adjacent municipal ROW. A municipal ditch fronts the subject site along Ottawa Street. A secondary ditch runs along the south of the Smiths Falls Rail Corridor at the rear of the site.

6.2 Proposed Storm Servicing

Runoff collected on the roof of the proposed Phase 1 and 2 buildings will be stored and controlled using flow restricting roof drains. Surface runoff from landscaped areas will be conveyed towards depressed surface storage areas located within the front yard of each phase. One minimum sized orifice for each phase will be used to direct controlled runoff from the surface storage areas to the municipal ditch along Ottawa Street during smaller storm events, while runoff exceeding the release rate of the orifices will be stored within the depressed surface storage areas. A weir is proposed for each surface storage area which will be located above the 100-year storage elevation. The weir will permit greater outflow in the event of a blockage within the system or a storm exceeding the 100-year event.

Runoff will be directed towards oil and grit separator units before discharging to the municipal ditch along Ottawa Street.

See CCO-25-0415 - POST in Appendix 'F' of this report and drawing C102 for more details. The Stormwater Management design for the subject property will be outlined in Section 7.0.

7.0 PROPOSED STORMWATER MANAGEMENT

7.1 Design Criteria

Stormwater management for the proposed site will be maintained through positive drainage away from the proposed building and towards the proposed depressed surface storage areas. The proposed stormwater management areas will capture and restrict runoff with the use of minimum sized orifices. The emergency overland flow route for the proposed site will be directed southeast towards the municipal ditch along Ottawa Street.

The quantitative and qualitative properties of the storm runoff for both the pre & post development flows are further detailed below. Stormwater Best Management Practices (SWM BMP's) will be implemented at the "Lot level", "Conveyance" and "End of Pipe" locations. These concepts will be explained further in Section 7.7.

In summary, the following design criteria have been employed in developing the stormwater management design for the site as directed by the RVCA and City:

Quality Control

- The site has been designed to achieve an 80% total suspended solids removal (enhanced level of treatment) using oil & grit separator units as part of a treatment train approach.

Quantity Control

- Post development 100-year flow is to be restricted to match the 2-year pre-development flow.

7.2 Runoff Coefficient Calculations

Runoff values presented in the report have been derived from the Hydrologic & Hydraulic analysis completed by JFSA. Please refer to the "Stratford Foxrun Development – 5923 Ottawa Street, Richmond Ditch Hydrologic and Hydraulic Analysis" for additional information.

Egis provided JFSA with the site area and runoff coefficients to be incorporated into their larger drainage areas. The following coefficients were used to develop an average C for each area:

Roofs/Concrete/Asphalt	0.90
Gravel	0.60
Undeveloped and Grass	0.20

As per the City of Ottawa - Sewer Design Guidelines, the 2/5-year balanced 'C' value must be increased by 25% for a 100-year storm event to a maximum of 1.0.

7.3 Pre-Development Drainage

The existing site drainage limits are demonstrated on the Pre-and Post- Development Drainage Area Plans included in Appendix 'E. The site is 2.27 ha overall, but for the purposes of this report, the pre-development drainage is focused on the area of development. A summary of the Pre-Development Runoff Coefficient Calculations can be found below.

Table 5: Pre-Development Runoff Coefficients Summary

Drainage Area	Area (ha)	Runoff Coefficient (2/5-Year)	Runoff Coefficient (100-Year)
A1	0.22	0.20	0.25
A2	0.26	0.20	0.25
Total (Phase 1)	0.48	-	-
A3	0.16	0.20	0.25
A4	0.29	0.20	0.25
Total (Phase 2)	0.45		

Area A1 and A3 represents the portion of the Phase 1 and Phase 2 development directed towards the rear yard in the existing condition, respectively. Areas A2 and A4 represent the portion of the Phase 1 and Phase 2 development areas directed towards the Ottawa Street municipal ditch in the existing condition, respectively.

Runoff directed towards the rear yard is conveyed along the railway ditch before discharging through a 1500 mm diameter culvert to Marlborough Creek, a tributary of the Jock River.

Runoff directed towards Ottawa Street is conveyed along the Ottawa Street and Eagleson Road municipal ditches before turning towards the ditch along the railway track and ultimately discharging through the same 1500 mm diameter culvert to Marlborough Creek. A Ditch Figure can be found within Appendix 'G'.

7.4 Post-Development Drainage

The proposed site drainage limits are demonstrated on the Post-Development Drainage Area Plan. See CCO-25-0415 - POST in Appendix 'F' of this report for more details. A summary of the Post-Development Runoff Coefficients can be found below.

Table 6: Post-Development Runoff Coefficients Summary

Drainage Area	Area (ha)	Runoff Coefficient (2/5-Year)	Runoff Coefficient (100-Year)
B1	0.42	0.51	0.58
B2	0.07	0.90	1.00
Total (Phase 1)	0.48	-	-
B3	0.35	0.49	0.56
B4	0.09	0.90	1.00
Total (Phase 2)	0.45		

Areas B1 represents Phase 1 surface runoff, while area B2 represents the Phase 1 roof area. Area B3 represents Phase 2 surface runoff, and area B4 represents the Phase 2 roof area. See Appendix 'G' for calculations.

For each phase, controlled roof runoff and uncontrolled surface runoff will be directed towards a depressed surface storage area located within the front yard. Phase 1 and Phase 2 will each employ a 75 mm diameter orifice to control outflow from its respective storage area. Each storage area will also include a 0.30m earth weir to allow for outflow in the event of a blockage within the system or a storm exceeding the 100-year event. The restriction of runoff will result in a ponding depth of 0.52m for Phase 1, and 0.66m for Phase 2 during the 100-year storm event. Stormwater management will be independent for each phase.

Runoff will be conveyed from the depressed surface storage areas to oil and grit separator units before discharging to the Ottawa Street municipal ditch.

7.5 Quantity Control

The 2- to 100-year post development runoff for the site must be restricted to match the 2-year pre-development flow rate.

JFSA was retained to complete a Hydrologic and Hydraulic analysis of the proposed stormwater management design to confirm there will be no negative impacts to the receiving ditch. A pre- and post-development hydrologic model was created with SWMHYMO, and hydraulic modeling was completed using HEC-RAS.

Table 7, below, summarizes the site release rates and required storage volumes for the post-development condition based on JFSA's analysis. For further information, refer to the memo prepared by JFSA and included in Appendix 'G'.

Table 7: Site Release Rates / Required Storage Volume / Ponding Elevation

	Phase 1 (0.48 ha)			Phase 2 (0.45 ha)		
Storm	Peak Outflow (m^3/s)	Required Storage (m^3)	Storage Elev. (m)	Peak Outflow (m^3/s)	Required Storage (m^3)	Storage Elev. (m)
2YrCHI3Hr	0.033	34	94.113	0.031	38	94.058
5YrCHI3Hr	0.054	64	94.189	0.049	65	94.167
10YrCHI3Hr	0.072	85	94.231	0.064	84	94.220
25YrCHI3Hr	0.094	113	94.284	0.083	109	94.280
50YrCHI3Hr	0.109	134	94.323	0.096	129	94.323
100YrCHI3Hr	0.130	158	94.364	0.114	150	94.366
2YrSCS24Hr	0.036	43	94.139	0.034	45	94.091
5YrSCS24Hr	0.056	72	94.205	0.051	71	94.185
10YrSCS24Hr	0.070	91	94.244	0.064	89	94.232
25YrSCS24Hr	0.088	117	94.292	0.080	112	94.286
50YrSCS24Hr	0.101	136	94.327	0.090	130	94.325
100YrSCS24Hr	0.115	157	94.362	0.103	149	94.364

Table 8, below, summarizes the Pre- and Post- development peak flow within the Ottawa Street Municipal Ditch at the southeast corner of the property (Junction J1 from the modeling results).

Table 8: Pre- and Post-Development Peak Flow Summary

	Peak Flow (m^3/s)		
Storm	Pre-Development	Post-Development	Difference
2YrCHI3Hr	0.015	0.019	0.004
5YrCHI3Hr	0.026	0.027	0.001
10YrCHI3Hr	0.035	0.032	-0.003
25YrCHI3Hr	0.047	0.038	-0.009
50YrCHI3Hr	0.057	0.043	-0.014

100YrCHI3Hr	0.067	0.048	-0.019
2YrSCS24Hr	0.024	0.024	0.000
5YrSCS24Hr	0.038	0.032	-0.006
10YrSCS24Hr	0.049	0.037	-0.012
25YrSCS24Hr	0.062	0.044	-0.018
50YrSCS24Hr	0.073	0.049	-0.024
100YrSCS24Hr	0.084	0.055	-0.029

As seen in Table 8, above, there will be a minor increase in flow during smaller storm events. The increase in flow is the result of additional area being directed towards the Ottawa Street municipal ditch that was directed towards the rear yard in the existing condition. Outflow during smaller events is controlled by an orifice at the minimum allowable size, and so reducing flow by reducing orifice size is not recommended. Furthermore, based on JFSA's analysis, it has been determined that there will be no negative downstream impact to the roadway or existing buildings resulting from the minor increase in runoff during smaller events.

During larger storm events, the modeling results indicate there will be a reduction in peak flow, and a reduction in the 100-year floodplain.

For more information on the Hydrologic and Hydraulic modeling completed by JFSA, please refer to the memo included in Appendix 'G'.

7.6 Quality Control

The development of this lot will employ Best Management Practices (BMP's) wherever possible. The intent of implementing stormwater BMP's is to ensure that water quality and quantity concerns are addressed at all stages of development. Lot level BMP's typically include temporary retention of the parking lot runoff, minimizing ground slopes and maximizing landscaped areas.

Within areas B1 and B3, surface runoff from the Phase 1 & 2 drive aisle, parking lots, and asphalt loading areas will be directed towards proposed grassed swales located along the phase line and property line. The grassed swales have been designed with minimal slope to reduce runoff velocity and promote filtration and settlement of suspended solids.

The proposed grassed swales will discharge to depressed surface storage areas located within Phase 1 and 2. The depressed surface storage areas will restrict runoff and provide further opportunity for suspended solids removal through filtration and settlement. Removal efficiency of the depressed surface storage area will be most comparable to a dry pond, given that runoff will be temporarily detained during storm events and then released at a controlled rate.

As per the Environmental Design Criteria section of the MECP Stormwater Management Planning and Design Manual, dry ponds can be credited with achieving a Basic 60% long-term suspended solid removal provided the storage volumes identified within Table 3.2 of the Manual are achieved.

For the Phase 1 site, with an imperviousness of 52%, a storage volume of 141 m^3/ha or 67.7 m^3 is required to achieve a basic long-term 60% TSS removal, based on Table 3.2 of the Manual. The Phase 1 surface storage area will provide up to 158 m^3 of stormwater storage, more than doubling the requirement.

For the Phase 2 site, with an imperviousness of 53%, a storage volume of 144 m^3/ha or 64.7 m^3 is required to achieve a basic long-term 60% TSS removal, based on Table 3.2 of the Manual. The Phase 2 surface storage area will provide up to 150 m^3 of stormwater storage, again more than doubling the requirement.

To ensure the quality control criteria are met, the depressed surface storage areas will discharge to Stormceptor EFO4 oil and grit separator units located at the outlet of each phase. The EFO4 unit is credited with achieving a TSS removal of 60% based on the ETV particle size distribution. Documentation supporting the 60% removal efficiency can be found within Appendix 'G'.

Given that runoff entering the EFO4 will already have undergone a 60% TSS removal within the depressed surface storage area, there will be a maximum remaining TSS of 40% of the baseline. As a result, runoff leaving the EFO4 units will have a remaining TSS of [40% – (60% * 40%)] = 16%, indicating a total TSS removal of 84%. It should be further noted that TSS reduction from the grassed swales has not been accounted for, and so the actual TSS removal efficiency of the site is expected to be increased.

7.7 Village of Richmond Environmental Management Plan

As the subject site is located within the Village of Richmond Environmental Management Plan study area, the site must conform to the findings of the EMP. Concurrence with the findings and recommendations are listed below:

7.7.1 Treatment Train

The proposed stormwater management system will convey runoff within gently sloped swales to a depressed surface storage area where runoff will be stored and released at a controlled rate. This will provide an opportunity for filtration through the vegetated medium, infiltration, and settlement of suspended solids. Before leaving the site, controlled runoff will be directed to an Oil & Grit separator where additional quality treatment will be provided. These lot level, conveyance, and end-of-pipe controls will ensure stormwater quality is properly addressed and 80% TSS reduction is achieved.

7.7.2 Thermal Mitigation

As mentioned above, stormwater conveyance will primarily be through gently sloped grass swales, and stormwater will be stored within a landscaped depressed surface storage area before discharging to the municipal ditch. After leaving the site, runoff will travel a minimum 745m within the municipal and railroad ditches

before discharging to Marlborough Creek. With on-site detention of stormwater within landscaped areas and the length of the flow path to the outlet, thermal impacts to the receiving watercourse are not anticipated.

7.7.3 Water Balance

Based on the findings of the Hydrogeological Report and Geotechnical Report prepared by Paterson, the site is heavily constrained by high groundwater and soils that are not suitable for infiltration. The borehole results identified that all soils warranted a description containing either clay, silt, clayey, or silty. As per Technical Bulletin IWSTB-2024-04, infiltration-type LID practices are not permitted in clay or silt soils, nor in soils that warrant a dual classification with silt or clay as per the USCS.

While the borehole logs identified some areas of glacial till consisting of silty sand that may be suitable for infiltration, the glacial till is most often described as “silty sand to sandy silt”, with a USCS soil classification of ML (inorganic silts of high plasticity) determined from BH3-24 SS3. The glacial till which solely consists of silty sand is also located below the high groundwater elevation of 93.79m – 93.86m identified by the Groundwater Monitoring Program. As per the Hydrogeological Report and Terrain Analysis, the highest elevation of the glacial till layer not containing “sandy silt” or “clayey silt” in the description was at BH2-25, where the top of the glacial till layer was noted at an elevation of 93.71m. As the glacial till layer comprised of silty sand is located below the seasonally high groundwater level, it cannot be incorporated into an infiltration-type LID. Furthermore, there is insufficient grade change within the site to allow for an infiltration-type LID to achieve minimum separation from the high groundwater level specified above.

While the site has been generally designed to promote infiltration with gently sloped grass conveyance swales and stormwater detention within landscaped surface storage areas, implementing an infiltration-type LID practice to ensure water balance will not be permitted, and so undertaking a water balance would not result in any changes to the design.

7.7.4 Volume Control (7 mm Storm Retention)

As mentioned above, an infiltration-type LID practice will not be permitted, and so the requirement to retain the first 7 mm of rainfall cannot be achieved through infiltration. Abstraction will be limited to depression storage within the gently sloped swales and stormwater management areas, and through evapotranspiration of the stored surface and roof runoff. Evapotranspiration has been promoted to the greatest extent possible within the design by providing orifice controls with the minimum permissible size. This will detain stormwater on site for long durations, resulting in maximum surface stormwater volumes of 158 m^3 for Phase 1 and 150 m^3 for Phase 2.

7.7.5 Control 100-Year Post to 2-Year Pre

Stormwater modeling has been completed by JFSA. The results indicated that while there will be a minor increase in runoff during smaller storm events, the 100-year peak flow will be a reduction compared to existing conditions. Additionally, the proposed stormwater management design will reduce the extent of the 100-year floodplain.

7.7.6 Erosion Potential vs Additional Retention

As previously mentioned, the design relies on detention of stormwater runoff and not retention, as an infiltration-based design will not be permitted. Minimum orifice sizes are proposed which result in the maximum on-site storage volume. Modeling has also been completed by JFSA which indicates there will be a reduction in flow leaving the site during larger stormer events.

7.7.7 Implementation of LID

LID has been implemented with vegetated swales and depressed vegetated surface storage areas.

8.0 EROSION AND SEDIMENT CONTROL

8.1 Temporary Measures

Before construction begins, temporary silt fence, straw bale or rock flow check dams will be installed at all natural runoff outlets from the property. It is crucial that these controls be maintained throughout construction and inspection of sediment and erosion control will be facilitated by the Contractor or Contract Administration staff throughout the construction period.

Silt fences will be installed where shown on the final engineering plans, specifically along the downstream property limits. The Contractor, at their discretion or at the instruction of the City, Conservation Authority or the Contract Administrator shall increase the quantity of sediment and erosion controls on-site to ensure that the site is operating as intended and no additional sediment finds its way off site. The straw bale check dams, silt fence, and rip rap outlet treatments shall be inspected weekly and after rainfall events. Care shall be taken to properly remove sediment from the silt fences and check dams as required. Care shall be taken at the removal stage to ensure that any silt that has accumulated is properly handled and disposed of. Removal of silt fences without prior removal of the sediments shall not be permitted.

Although not anticipated, work through winter months shall be closely monitored for erosion along sloped areas. Should erosion be noted, the Contractor shall be alerted and shall take all necessary steps to rectify the situation. Should the Contractor's efforts fail at remediating the eroded areas, the Contractor shall contact the City and/or Conservation Authority to review the site conditions and determine the appropriate course of action. As the ground begins to thaw, the Contractor shall place silt fencing at all required locations as soon as ground conditions warrant. Please see the Erosion & Sediment Control Plan for additional details regarding the temporary measures to be installed and their appropriate OPSD references.

8.2 Permanent Measures

Rip-rap will be placed at all locations that have the potential for concentrated flow. It is crucial that the Contractor ensure that the geotextile is keyed in properly to ensure runoff does not undermine the rip rapped area. Additional rip rap is to be placed at erosion prone locations as identified by the Contractor / Contract Administrator / City or Conservation Authority.

It is expected that the Contractor will promptly ensure that all disturbed areas receive topsoil and seed/sod and that grass be established as soon as possible. Any areas of excess fill shall be removed or levelled as soon as possible and must be located a sufficient distance from any watercourse to ensure that no sediment is washed out into the watercourse. As the vegetation growth within the site provides a key component to the control of sediment for the site, it must be properly maintained once established. Once the construction is complete, it will be up to the landowner to maintain the vegetation and ensure that the vegetation is not overgrown or impeded by foreign objects.

9.0 SUMMARY

- A new 651 m^2 distillery and restaurant/retail building is proposed within Phase 1 at 5923 Ottawa Street.
- A new 926 m^2 distillery building is proposed within Phase 2.
- Domestic water servicing will be provided by a new drilled well for each phase, designed by others.
- The Phase 2 building will be serviced by the Phase 1 well in the interim condition.
- Fire protection for Phases 1 and 2 will be provided by a remote hydrant system, sprinkler systems, and underground water storage tanks.
- Sanitary servicing will be provided by new on-site septic systems designed by Paterson.
- Storage for the 2- through 100-year storm events will be provided on the roof of the building and within proposed depressed surface storage areas. Runoff will discharge to the municipal ditch along Ottawa Street.
- Based on the hydrologic and hydraulic modeling completed by JFSA, there will be no negative downstream impact resulting from the stormwater management design.
- Quality control requirements will be achieved with oil and grit separator units as part of a treatment train approach.

10.0 CONCLUSIONS

This report has been provided to describe the servicing and stormwater management for the site located 5923 Ottawa Street.

This report is respectfully being submitted for review.

Regards,

Egis Canada Ltd.

Jessica Burden, P.Eng.
Project Engineer, Land Development
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Junior Project Engineer, Land Development
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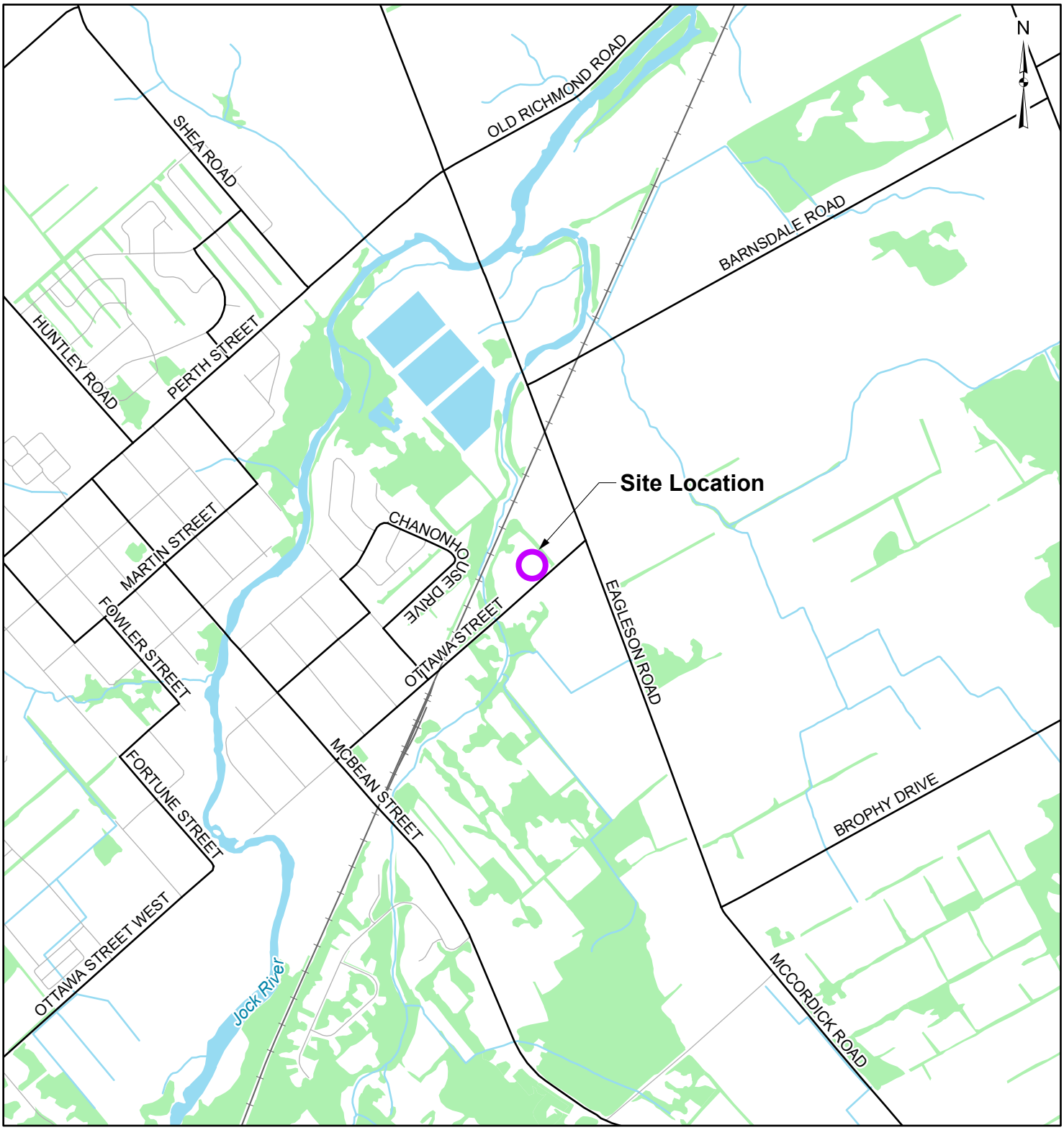
11.0 STATEMENT OF LIMITATIONS

This report was produced for the exclusive use of 99117756 Canada Inc. The purpose of the report is to assess the existing stormwater management system and provide recommendations and designs for the post-construction scenario that are in compliance with the guidelines and standards from the Ministry of the Environment, Conservation and Parks, City of Ottawa and local approval agencies. Egis Canada reviewed the site information and background documents listed in Section 2.0 of this report. While the previous data was reviewed by Egis Canada and site visits were performed, no field verification/measures of any information were conducted.

Any use of this review by a third party, or any reliance on decisions made based on it, without a reliance report is the responsibility of such third parties. Egis Canada accepts no responsibility for damages, if any, suffered by any third party as a result of decisions or actions made based on this review.

The findings, conclusions and/or recommendations of this report are only valid as of the date of this report. No assurance is made regarding any changes in conditions subsequent to this date. If additional information is discovered or becomes available at a future date, Egis Canada should be requested to re-evaluate the conclusions presented in this report, and provide amendments, if required.

APPENDIX A
KEY PLAN



LEGEND

- Site Location
- Local Road
- Major Road
- Railroad
- Watercourse
- Waterbody
- Wooded Area

600 300 0 600

Scale 1:20,000 Metres

REFERENCE

GIS data provided by the Ontario Ministry of Natural Resources and Forestry, 2024.

CLIENT: 99117756 CANADA INC.

PROJECT: 5923 OTTAWA STREET, RICHMOND

TITLE: SITE LOCATION PLAN

egis
115 Walgreen Road, RR3, Carp, ON K0A1L0
Tel: 613-836-2184 Fax: 613-836-3742

PROJECT NO: CCO-25-0415	FIGURE:
Date: Sep., 04, 2024	1
GIS: CZ	
Checked By: AG	

C:\Users\c.zander\EGIS Group\GIS - Documents\Projects\2025\CCO\CCO-25-0415 5923 Ottawa Street\aprx\Key Maps\Land Development\Site Location.aprx

APPENDIX B
BACKGROUND DOCUMENTS

File No.: PC2024-0092

March 27, 2024

Bridgette Alchawa
Egis Canada Ltd.
Via email: bridgette.alchawa@egis-group.com

Subject: Pre-Consultation: Meeting Feedback
Proposed Site Plan Control Application – 5923 Ottawa St

Please find below information regarding next steps as well as consolidated comments from the above-noted pre-consultation meeting held on March 21, 2024.

Pre-Consultation Preliminary Assessment

1 ☐	**2** ☐	**3** ☐	**4** ☒	**5** ☐

One (1) indicates that considerable major revisions are required while five (5) suggests that the proposal appears to meet the City's key land use policies and guidelines. This assessment is purely advisory and does not consider technical aspects of the proposal or in any way guarantee application approval.

Next Steps

1. A review of the proposal and materials submitted for the above-noted pre-consultation has been undertaken. Please proceed to complete a Phase 2 Pre-consultation Application Form and submit it together with the necessary studies and/or plans to planningcirculations@ottawa.ca.

2. In your subsequent pre-consultation submission, please ensure that all comments or issues detailed herein are addressed. A detailed cover letter stating how each issue has been addressed must be included with the submission materials. Please coordinate the numbering of your responses within the cover letter with the comment number(s) herein.

3. Please note, if your development proposal changes significantly in scope, design, or density before the Phase 3 pre-consultation, you may be required to complete or repeat the Phase 2 pre-consultation process.

Supporting Information and Material Requirements

1. The attached **Study and Plan Identification List** outlines the information and material that has been identified, during this phase of pre-consultation, as either required (R) or advised (A) as part of a future complete application submission.

a. The required plans and studies must meet the City's Terms of Reference (ToR) and/or Guidelines, as available on Ottawa.ca. These ToR and Guidelines outline the specific requirements that must be met for each plan or study to be deemed adequate.

Consultation with Technical Agencies

1. You are encouraged to consult with technical agencies early in the development process and throughout the development of your project concept. A list of technical agencies and their contact information is enclosed.

Planning

Comments:

Questions:

1. What is the intent for the proposed bar/pub use. Restaurants are a prohibited use per 385r.

   Response: It is understood that liquor can be sold if it is the product being produced. The current idea for the restaurant is to offer food that is easily prepared, (sandwiches, pizza, etc.) however, applicant suggested that they may be willing to consider different options based on zoning interpretation.

2. What is the idea for the severance component? May not have enough space to achieve the severance once the full build out of the lot is considered.

3. What is the timing of the severance? There are potential concerns regarding a pre-mature severance.

   Response: The idea is for the severance to occur after the site plan application/approval and the establishment of the site.

Official Plan

1. The subject site is designated Village on Schedule B9 of the Official Plan.

2. The subject site is designated Village Industrial Area on Schedule A of the Village of Richmond Secondary Plan – Volume 2.

   a. Uses permitted on lands designated Village Industrial Area include: light industrial uses, office, printing plant, service repair shop, small batch brewery, warehouse and heavy equipment and vehicle sales, rental and servicing, research, technology, nurseries, greenhouses, catering, places of assembly, broadcasting and training

b. Maximum building height - four storeys

c. Adequate buffering including landscaping and screening will be provided between uses in Industrial Areas to ensure that storage areas and parking areas are screened from adjacent properties

Zoning By-law

3. The subject site is zoned RG3 [385r] under the Zoning By-law. The purpose of the RG (Rural General Industrial) is to permit development of light industrial uses in Village designations; accommodate a range of light industrial uses and limited service commercial uses for the travelling public; and, regulate development in a manner that respects adjacent land uses and will have a minimal impact on the surrounding rural area. The RG3 subzone recognizes smaller parcels.

4. Permitted uses in the RG3 zone include [S.219 (1)]:

   n. Light industrial uses
   t. Warehouse

5. Conditional Permitted Uses - The following are permitted subject to the use being located on the same lot as a use listed above.

   c. Bar
      - A bar must be ancillary to a permitted brewery, winery or distillery and, may not have a gross floor area exceeding the lesser of:

        - 300 square metres, or

        - 25% of the floor area of the brewery, winery or distillery to which it is ancillary.

6. **The site is subject to Rural Exception 385r which lists restaurants as a prohibited use.**

7. The proposal must meet the following 385r Exception Provisions and the RG3 provisions provided in Section 219.

   a. Minimum front yard – 15m
   b. Maximum lot coverage – 35 percent
   c. No maximum building height

8. Minimum parking space rates as required by S.101, Table 101.

   a. Bars – 6 per 100sq.m of g.f.a
   b. Light industrial use – 0.8 per 100sq.m of g.f.a
   c. Retail Store – 3.4 per 100sq.m of g.f.a

9. A landscape buffer for the parking lot will be required in accordance Table 110.

10. Outdoor refuse collection and loading areas must be:

    a. Located at least 9 metres from a lot line abutting a public street
    b. Located at least 3 metres from any other lot line
    c. Screened from view by an opaque screen with a minimum height of 2.0 metres

11. Bicycle parking must be provided in accordance with Section 111.

12. If loading spaces are provided, they must be in accordance with Section 113.

Discussion and Submission Requirements

13. Subject Exception Zone prohibits restaurants as a use.

14. Zoning by-law interpretation staff have confirmed that a bar/pub serving food and drink ancillary to the distillery and contained within the same structure would be aligned with the intent of the zoning.

15. If the bar/pub component were to be contained in a separate structure, it would be more closely aligned with a restaurant and would not be permitted under the current zoning.

16. A Site Plan will be required. The plan must be prepared as per the City's Terms of Reference and must address the following:

    a. The site plan must clearly identify the required yard setbacks from all existing lot lines

    b. The Site Plan must clearly identify all existing buildings

    c. The required landscaped area must be included

    d. Parking spaces must be clearly defined, as well as the access driveway, and any drive aisles throughout the site

17. A Landscape Plan will be required. The plan must be prepared in accordance with the Landscape Plan Terms of Reference and include all of the listed general elements as well as detail existing and proposed vegetation.

18. Plan of Survey showing the current site conditions prepared in accordance with the City's Plan of Survey Terms of Reference.

Urban Design

Comments:

Submission Requirements:

19. Urban Design Brief is required.. Please see attached customized Terms of Reference to guide the preparation.

    i. The Urban Design Brief should be structured by generally following the headings highlighted under Section 3 – Contents of these Terms of Reference.

    ii. The proposal is not subject to the Urban Design Review Panel.

20. Additional drawings and studies are required as shown on the SPIL. Please follow the terms of references (Planning application submission information and materials | City of Ottawa) the prepare these drawings and studies.

    i. Design Brief

    ii. Site Plan

    iii. Landscape Plan

    iv. Elevations

Comments on Preliminary Design – Applicants are to provide a response to these comments in the Design Brief.

21. The following policies/guidelines apply:

    a. Village Industrial within the Richmond Secondary Plan

    b. Design Guidelines for Rural Villages

22. Please reference the direction within the Design Guidelines to help inform the design of the building as the design progresses. The architectural directions in the guidelines should guide the building design as closely as possible.

23. Please ensure that landscaping and tree planting is provided along Ottawa Street frontage.

24. Please ensure that the patio is a comfortable place for patrons and separated from road noise. Please provide screening and perimeter landscaping.

Feel free to contact Lisa Stern, Planner III, for follow-up questions.

Engineering

Comments:

25. Servicing

    a. A **Site Servicing Study** will be required with the Site Plan Control application. This report should be completed exceeding the minimum requirements laid out in the Site Servicing Study Terms of Reference. The report will serve to address how the design of the site complies with City design guidelines, Official Plan policies, among other evaluation criteria noted in the Terms of Reference. Stormwater management, which is a component of the Servicing Study, is required to mitigate the effects of urbanization on the hydrologic cycle including increased runoff and decreased infiltration, of rain and snowmelt. Without proper stormwater management, a site can negatively impact the environment by reducing baseflow, degrading water quality, and increasing flooding and erosion. This leads to reduced diversity of aquatic life, fewer opportunities for human uses of water resources, and loss of property and human life. The City looks to lessen these risks by reviewing development to ensure stormwater management practices are being implemented, infrastructure is resilient to future climate conditions, including extreme weather events, and using low impact development where feasible to manage smaller, infrequent events. The Official Plan, which receives authority through the Planning Act, identifies in Policy 6, section 2.2.3, that flooding is the costliest type of natural disaster in Canada.

    b. There is no public service capacity currently available to have the option of extending public services to the proposed development. Development therefore must be on the basis of private services. The Village has a limited municipal water network and limited sanitary network & pump station capacity. Any planned growth would need to include network, and possibly plant, upgrades to support proposed development, which is likely too onerous for the scope of this development.

    c. In terms of the Stormwater Management for the Site Plan Control application, the quantity criteria will be that the 100-yr post development peak flow rate must match the 2-year pre-development

peak flow rate. As part of complete Site Plan Control application, whether development or redevelopment, the report must identify and mitigate the impacts of additional runoff resulting from increased imperviousness through measures such as site-specific stormwater management postulated in policy 6, section 4.7.1 of the Official Plan.

d. In terms of a Stormwater Management approach, runoff volume control should proceed in the following hierarchical order, with each step exhausted before proceeding to the next:

    1. Retention (infiltration, reuse, or evapotranspiration),

    2. Low Impact Development (LID) filtration, and

    3. Conventional Stormwater management. Conventional stormwater management, should proceed only once Maximum Extent Possible has been attained for Steps 1 and 2 for retention and filtration.

e. The pre-development runoff coefficient or a maximum equivalent 'C' of 0.5, whichever is less as described in the Sewer Design Guidelines, Second Edition, document no. SDG002, October 2012, City of Ottawa, including technical bulletins ISDTB-2014-01, PIEDTB-2016-01, ISTB 2018-01, ISTB-2018-04, ISTB-2019-02, section 8.3.7.3.

f. A calculated time of concentration cannot be less than 10 minutes as described in section 5.1.4 of the Sewer Design Guidelines.

g. The water quality control should be an enhanced level treatment, 80% long term suspended sediment removal. The City will be looking for a treatment train approach for water quality treatment. Reporting of TSS removal shall be extensive and if peer reviewed and published papers are relied on for conclusions, the conclusions shall be patently clear and the report shall show overwhelming agreement.

h. Runoff will need to be conveyed to a legal and sufficient outlet. If it is proposed to discharge storm water to the existing ditches in the ROW, the ditches will need to be shown to provide continuous flow to an outlet. This comment is sourced from the Official Plan which notes in policy 8, section 4.7.1, that proof of legal and sufficient outlet for proposed stormwater management and drainage systems will be required as a condition of future Site Plan Control.

    i. The 1 in 100-year floodplain is present along the rear portion of the lot. Any site alteration within this area requires a permit from the Conservation Authority. The Official Plan, in section

10.1.1, notes that development and site alteration shall not be permitted in the 1 in 100 year flood plain.

j. Low Impact Development (LID) is to be implemented as per the bulletin from the former MOECC (now MECP) titled Expectations RE: Stormwater Management released in February 2015. The infiltration target for the site is typically determined from an applicable higher-level study, which is confirmed through on-site infiltration/percolation testing. The reporting should identify the treatment train of processes proposed for the development. The Official Plan defines LID as a stormwater management strategy that seeks to mitigate the impacts of increased runoff and stormwater pollution by managing runoff as close to its source as possible. LID comprises a set of site design strategies that minimize runoff through distributed, small scale structural practices that mimic natural or predevelopment hydrology through the processes of infiltration, evapotranspiration, harvesting, filtration and detention of stormwater. These practices can effectively remove nutrients, pathogens and metals from runoff, and they reduce the volume and intensity of stormwater flows. The City has released a document titled 'Low Impact Development Technical Guidance Report – Implementation in Areas with Potential Hydrogeological Constraints' which aids sites which may have constraints such as low permeability or high groundwater.

k. The anticipated water demands (average day, maximum daily, and maximum hour) must be presented and justified for any hydrogeological pumping test rate. The pumping rate should be the maximum daily demand rate. The Ottawa Design Guidelines – Water Distribution provide information for determining water demand rates for the proposed zoning or uses in Table 4.2 – Consumption Rates.

26. Fire Services

a. The Site Servicing Study must include a section addressing the provision of a **water supply for fire suppression**, determination of the required fire flow, and confirmation of whether any on-site storage will be required. It is the responsibility of the owner to ensure that an adequate water supply for firefighting is provided. The FUS (Fire Underwriters Survey) methodology, as opposed to the OBC methodology shall be applied for all rural areas.

    i. It is anticipated that mitigative measures, including on-site storage, will be required given the group F, division 1 for distilleries. This occupancy is considered a high hazard occupancy under the Ontario Building Code. There will be risks with regards to the flammable or explosive off-gasses or

vapours, that must be contemplated and appropriately mitigated by the reporting.

ii. The project, due to the proposed occupancy, will not be eligible to forgo the requirement for on-site fire retention storage.

iii. As mentioned the Phase 1 meeting, the applicant could retain a fire safety consultant to aid in the preparation of the FUS calculations. The specialist fire-fighting consultant would review a number of factors and could propose an alternative approach satisfactory to Development Review and the City's Fire Protection Engineer, Allan Evans.

iv. Enhanced review will be invoked should the construction coefficient chosen be less than 1.

b. Fire Routes now require designation with By-law through the Site Plan process by contacting fireroutes@ottawa.ca once preliminary Site Plan approval has been provided.

27. Grading

a. A **Grading and Drainage Plan** will be required with the Site Plan Control application identifying the existing and proposed drainage patterns and their relationship with the surface runoff control. As part of a complete Site Plan Control application, the Grading and Drainage Plan should identify and implement site, grading, building, and servicing design measures to protect new development from flooding as per policy 6, section 4.7.1 of the Official Plan. The Grading and Drainage Plan forms part of the requirements for Site Plan Control applications noted in the Studies and Plan Identification List, provided with the feedback documents.

b. The Plan should have a note that references the horizontal and vertical datums that were used and tied into to complete the project. The drawing should also make reference (on the face of the plan) to a site benchmark that can be used by anyone with a level to carry out checks on the particular project.

28. Erosion and Sediment Control

a. An **Erosion and Sediment Control Plan** will be required with the Site Plan Control Application. Erosion and sediment control plans shall have regard to Canadian Standards Association (CSA) W202 Erosion and Sediment Control Inspection and Monitoring Standard (as amended).

29. Geotechnical

a. A **Geotechnical Study** will be required with the Site Plan Control application. The report should provide sufficient soils and engineering information to confirm that the site(s) are suitable or can be made suitable for development based on the requirements of the Geotechnical Investigation and Reporting Guidelines for Development Applications in the City of Ottawa.

b. It is highly likely that sensitive marine clays will be encountered on the site. If the presence of clays is confirmed, enhanced investigations must be undertaken with vane shear, Atterberg limits, shrinkage, size, grade raise restriction, consolidation, sensitivity, and liquefaction analysis-amongst others.

c. As the site is potentially underlain by compressible marine clays, long term groundwater monitoring will be required to support the development. Groundwater elevations are anticipated to be high (shallow) given the location in Richmond. The capacity of the deposit to accept additional load depends on the groundwater level. The Stormwater Management and LID design will also be impacted by the groundwater level.

30. Hydrogeological and Terrain Analysis Requirements (private servicing)

a. A **Hydrogeological and Terrain Analysis** will be required for the Site Plan Control application to establish that there is an adequate quantity and quality of groundwater to support the proposed development(s). The requirements for the Hydrogeological and Terrain Analysis Report are outlined in the City of Ottawa Hydrogeological and Terrain Analysis Guidelines, Section 5.0 for Site Plans. The study forms part of the requirements for Site Plan Control applications noted in the Studies and Plan Identification List, provided with the feedback documents.

b. Note that the onsite well would provide groundwater which serves the public and thus may be considered a regulated small drinking water system under O.Reg. 319/08: Small Drinking Water Systems. The application would also need to contact and incorporate any requirements set by medical officers of health or Ottawa Public Health. Any requirements related to the regulated small drinking water system must be fulfilled prior to the use of the system. “drinking water system” means a system of works, excluding plumbing, that is established for the purpose of providing users of the system with drinking water and that includes, (a) any thing used for the collection, production, treatment, storage, supply or distribution of water and (b) a well or intake that serves as the source or entry point of raw water supply for the system;

c. The supply well must be tested to confirm water quantity and quality suitability prior to site plan approval. Support must be provided for the pump test rate; which should be the maximum day rate. The rate should consider the actual use, or potential uses permitted through zoning if unknown.

d. The parameters of water quality that will be tested will be the "subdivision suite" (known to local well testing laboratories), as well as trace metals and VOCs. Requirements are outlined in the Hydrogeological and Terrain Analysis Guidelines, City of Ottawa, March 2021. The report should also provide an assessment of adjacent land uses and concerns and determine if any other parameters need to be tested (e.g. petroleum hydrocarbons, etc.).

e. The Hydrogeological and Terrain Analysis Report should outline potential on-site activities and risks to existing groundwater users and identify measures that should be implemented to protect the aquifer in the long-term.

f. Bollards, or other means of preventing vehicle access, will need to be provided between areas with vehicle access and the existing or proposed well(s).

g. Results from nearby wells indicate a potential for exceedances for hardness, colour, total dissolved solids (TDS), turbidity, chloride, iron, and sodium.

h. A Septic System Impact Assessment must be completed as part of the Hydrogeological and Terrain Analysis Report, as per the City's Hydrogeological and Terrain Analysis Report Guidelines and MECP Guideline D-5-4, please refer to the HGTA for the predictive assessment for commercial/industrial developments (not residential developments).

    i. Note that compact gravel will be considered impermeable in the septic impact assessment unless accompanied by field testing to confirm infiltration rates.

    ii. Since this application is a site plan (not lot creation or zoning) septic treatment (i.e. tertiary treatment with nitrate dilution) may be considered as part of the septic impact assessment calculations. A system certified though NSF or BNQ should be recommended.

i. If the expected sewage daily design flow is 10,000 L/d or less, the septic permit from the Ottawa Septic System Office must be issued prior to Site Plan Approval being granted.

j. If the sewage design flow from sewage systems exceeds 10,000 L/d, a Reasonable Use Assessment must accompany the application to the City. Sewage systems with design flows exceeding 10,000 L/d require the issuance of an Environmental Compliance Approval (ECA) from the MECP prior to Site Plan Approval being granted.

k. Bollards, or other means of preventing vehicle access, will need to be provided between areas with vehicle access and the proposed septic system(s).

l. Technical consultation with the hydrogeological report reviewer is encouraged, please contact the City hydrogeologist, Obai Mohammed and copy the project manager listed below to schedule a technical consultation.

31. Noise and Vibration

a. A **Noise Control Study** is required with the Site Plan Control Application. Noise studies are required for new noise sensitive land uses in proximity to surface transportation (road and rail). The site is within the influence area of a Protected Transportation Corridor (identified on Schedule C2 of the Official Plan) for which the noise impacts must be contemplated. A Noise Feasibility Study is required for development proposals within 250 meters of a secondary main railway line or within 500 meters of a principal main railway line.

    i. The Ministry of Ontario's NPC-300 Environmental Noise Guideline, for which the City's ENCG were based, defines a noise sensitive land use as a property of a person that accommodates a building used for a noise sensitive commercial purpose. The definition goes on to say that from a land use planning perspective, a noise sensitive land use may be comprised of spaces that are noise sensitive and spaces that are not noise sensitive. The outdoor living area (OLA) associated with a noise sensitive land use is considered a noise sensitive space.

    ii. The City's Environmental Noise Control Guidelines identify that noise sensitive land uses includes other land uses that may contain outdoor and/or outdoor areas/spaces where an intruding noise may create an adverse effect, which appears to be the case for the proposal.

b. The City will require a vibration study if there is proposed development within 75 metres of the railway right of way, based on Official Plan section 10.2.1.

c. The owner of the rail corridor will be able to provide scoping for the future works in the rail corridor which will guide the classification as principal or secondary main rail line in terms of the preparation of the noise feasibility study.

32. Rail Safety

    a. A **Rail Proximity Study** will be required with the application to address rail safety, implement risk mitigation best practices, and to inform any development setbacks required based on proximity to the rail corridor. The Official Plan notes, in section 10.2.1, that land adjacent to all Protected Transportation Corridors and facilities shown on Schedule C2 must follow rail safety and risk mitigation best practices to determine appropriate development setbacks. The FCM-RAC Guidelines for New Development or its successor shall apply in this case.

        i. One of the elements of the report will be to contemplate the use of safety barriers to reduce the risks associated with railway incidents by intercepting or deflecting derailed cars in order to reduce or eliminate potential loss of life and damage to property. The standard safety barrier is an earthen berm, which is intended to absorb the energy of derailed cars, slowing them down and limiting the distance they travel outside of the railway right-of-way. The berm works by intercepting the movement of a derailed car. As the car travels into the berm, it is pulled down by gravity, causing the car to begin to dig into the earth, and pulling it into the intervening earthen mass, slowing it down, and eventually bringing it to a stop.

33. An MECP Environmental Compliance Approval would be required for the proposed stormwater management facilities, LID works, or sewage works if the exemption requirements of O.Reg. 525/98 are not met. It appears based on the proposal that an ECA would be required given the industrial use. Please contact the Ministry of the Environment, Conservation and Parks, Ottawa District Office to arrange a pre-submission consultation.

    a. Please note that the process for ECAs is undergoing changes and may be different upon time of submission. Currently, once the development application has been submitted, a request can be made to the City to consider a Transfer of Review (ToR) ECA for SWM works (ponds, ditches, culverts, etc.) for private property, instead of a direct submission ECA. This is subject to approval by the City and MECP. Note that the ECA requirements are currently in transition towards the linear ECA process and more details may become available depending on application submission timeline. It is

recommended to check with the City when the development application is submitted to confirm the ECA process at that time.

34. Phase One Environmental Site Assessment

    a. A **Phase One Environmental Site Assessment (ESA)**, and possibly Phase Two ESA as deemed required by the Phase 1 ESA, is required for the proposed Site Plan Control application. This mandatory report serves to ensure that development only takes place on sites where the environmental conditions are suitable for the proposed use in accordance with provincial legislation and regulations. The City's Historic Land Use Inventory identifies that there is a potentially contaminating use of a Motor Vehicle Repair Shop, repair and service at 5949 Ottawa which should be contemplated by the environmental consultant.

35. Construction constraints

    a. More detailed constraints may be provided in the Phase 2 Pre-Application Consultation Meeting as the conceptual drawing has provided more detail.

36. Background studies

    a. Village of Richmond Master Servicing Study

    b. Village of Richmond Environmental Management Plan

    c. Village of Richmond Community Design Plan

37. Severance

    a. In terms of the requirements for a future proposed severance, there will be engineering conditions placed on the application. It is recommended that the applicant reach out to the Development Review All Wards group who now handles commenting on Committee of Adjustment applications.

        i. It is anticipated that a condition will be for a Hydrogeological and Terrain Analysis report to demonstrate the adequacy of the groundwater and area/septic dilution to accommodate the development.

        ii. It is anticipated that a condition for independent water, sanitary and storm servicing will be place. Each lot should have their own independent systems which do not cross the property line.

iii. It is anticipated that Noise Studies, Phase 1 ESA, and Rail Safety reports would be required as conditions of the severance.

Feel free to contact Travis Smith, Infrastructure Project Manager, for follow-up questions.

Transportation

Comments:

38. A TIA is not required.

39. ROW Protection:

    a. Ensure that the development proposal complies with the Right-of-Way protection requirements of the Official Plan's Schedule C16.

    b. See Schedule C16 of the Official Plan.

    c. Any requests for exceptions to ROW protection requirements must be discussed with Transportation Planning and concurrence provided by Transportation Planning management.

    d. ROW must be unincumbered and conveyed at no cost to the City. Note that conveyance of the ROW/corner triangle will be required prior to registration of the SP agreement. Additional information on the conveyance process can be provided upon request.

40. Clear throat requirement is 8m. Ensure this length is provided. The clear throat length is measured from the ends of the driveway curb return radii at the roadway and the point of first conflict on-site. Note the minimum throat length provided must be maintained with the future ROW protection (as applicable).

41. Signalization of Eagleson Road and Ottawa Street is identified on the Development Charges Bylaw. Warrants have not yet been met for this intersection.

42. As the proposed site is commercial/industrial, AODA legislation applies.

    a. Ensure all crosswalks located internally on the site provide a TWSI at the depressed curb, per requirements of the Integrated Accessibility Standards Regulation under the AODA.

    b. Clearly define accessible parking stalls and ensure they meet AODA standards (include an access aisle next to the parking stall and a pedestrian curb ramp at the end of the access aisle, as required).

c. Please consider using the City's Accessibility Design Standards, which provide a summary of AODA requirements. https://ottawa.ca/en/city-hall/creating-equal-inclusive-and-diverse-city/accessibility-services/accessibility-design-standards-features#accessibility-design-standards

43. On site plan:

a. Ensure site access meets the City's Private Approach Bylaw.

b. Show all details of the roads abutting the site; include such items as pavement markings, accesses and/or sidewalks.

c. Turning movement diagrams required for all accesses showing the largest vehicle to access/egress the site.

d. Turning movement diagrams required for internal movements (loading areas, garbage).

e. Show all curb radii measurements; ensure that all curb radii are reduced as much as possible and fall within TAC guidelines (Figure 8.5.1).

f. Show dimensions for site elements (i.e. lane/aisle widths, access width and throat length, parking stalls, sidewalks, pedestrian pathways, etc.).

Feel free to contact Josiane Gervais, Transportation Project Manager, for follow-up questions.

Environment

Comments:

44. Backs onto floodplain associated with Marlborough Creek. The village of Richmond EMP (2010) indicates that the floodplain on this property contains a "local woodlot". Since the site plan indicates that the woodlot in the floodplain will be retained, we have no significant natural heritage concerns with the proposal.

45. There is potential for species at risk on the site, particularly in the wooded portion of the site this can be addressed through a Tree Conservation Report since the most likely concerns are related to forest dwelling species like butternut trees, black ash, and bats (addressed through timing windows). Accordingly we recommend a Tree Conservation Report be prepare to address the potential presences of these species within 25 m of

the proposed site alteration. The TCR will also need to address the concerns of our Planning Foresters as well as the information above.

46. Bird-safe design - Please review and incorporate bird safe design elements. Some of the risk factors include glass and related design traps such as corner glass and fly-through conditions, ventilation grates and open pipes, landscaping, light pollution. More guidance and solutions are available in the guidelines which can be found here: https://documents.ottawa.ca/sites/documents/files/birdsafedesign_guidelines_en.pdf

Feel free to contact Matthew Hayley, Environmental Planner, for follow-up questions.

Forestry

Comments:

47. A tree permit will not be required as part of this application, as there are no City Trees within the right-of-way fronting the site, and impacts to private trees in the rural area are not regulated by the tree by-law.

48. The following Tree Conservation Report (TCR) guidelines have been adapted from the Schedule E of the Tree Protection By-law – for more information on these requirements please contact julian.alvarez-barkham@ottawa.ca

    a. A Tree Conservation Report (TCR) must be supplied for review along with the suite of other plans/reports required by the City
        i. An approved TCR is a requirement of Site Plan approval.
    b. The TCR must contain 2 separate plans:
        i. Plan/Map 1 - show existing conditions with tree cover information.
        ii. Plan/Map 2 - show proposed development with tree cover information.
    c. The TCR must list all trees on site, as well as off-site trees if the CRZ (critical root zone) extends into the developed area, by species, diameter, and health condition.
        i. For ease of review, the Planning Forester suggests that all trees be numbered and referenced in an inventory table.
    d. Please identify trees by ownership – private onsite, private on adjoining site, city owned, co-owned (trees on a property line)

e. If trees are to be removed, the TCR must clearly show where they are, and document the reason they cannot be retained.
    i. Compensation may be required for the removal of city owned trees.
f. The removal of trees on a property line will require the permission of both property owners.
g. All retained trees must be shown, and all retained trees within the area impacted by the development process must be protected as per City guidelines available on the Tree Protection Specification or by searching Ottawa.ca.
    i. The location of tree protection fencing must be shown on the plan;
    ii. Show the critical root zone of the retained trees.
h. The City encourages the retention of healthy trees; if possible, please seek opportunities for retention of trees that will contribute to the design/function of the site.

49. The following Landscape Plan (LP) guidelines have been adapted from Schedule E of the Tree Protection By-law – for more information on these requirements please contact julian.alvarez-barkham@ottawa.ca

    a. Please ensure any retained trees are shown on the LP.
    b. Minimum Setbacks
        i. Maintain 1.5m from sidewalk or MUP/cycle track or water service laterals.
        ii. Maintain 2.5m from curb.
    c. Coniferous species require a minimum 4.5m setback from curb, sidewalk, or MUP/cycle track/pathway.
    d. Maintain 7.5m between large growing trees, and 4m between small growing trees. Park or open space planting should consider 10m spacing, except where otherwise approved in naturalization / afforestation areas.
    e. Adhere to Ottawa Hydro's planting guidelines (species and setbacks) when planting around overhead primary conductors.
    f. Tree specifications
        i. Minimum stock size: 50mm tree caliper for deciduous, 200cm height for coniferous.
        ii. Maximize the use of large deciduous species wherever possible to maximize future canopy coverage

g. Tree planting on city property shall be in accordance with the City of Ottawa's Tree Planting Specification; and if possible, include watering and warranty as described in the specification.

h. No root barriers, dead-man anchor systems, or planters are permitted.

i. No tree stakes unless necessary (and only 1 on the prevailing winds side of the tree)

j. Hard surface planting

   i. If there are hard surface plantings, a planting detail must be provided.

   ii. Curb style planter design is highly recommended.

   iii. No grates are to be used and if guards are required, City of Ottawa standard (which can be provided) shall be used.

k. Trees are to be planted at grade.

l. Soil Volume - Please demonstrate as per the **Landscape Plan Terms of Reference** that the available soil volumes for new plantings will meet or exceed the following:

Tree Type/Size	Single Tree Soil Volume (m3)	Multiple Tree Soil Volume (m3/tree)
Ornamental	15	9
Columnar	15	9
Small	20	12
Medium	25	15
Large	30	18
Conifer	25	15

   i. It is strongly suggested that the proposed species list include a column listing the available soil volume.

m. Sensitive Marine Clay - Please follow the City's 2017 Tree Planting in Sensitive Marine Clay guidelines.

n. The City requests that consideration be given to planting native species wherever there is a high probability of survival to maturity.

o. Efforts shall be made to provide as much future canopy cover as possible at a site level, through tree planting and tree retention. The Landscape Plan shall show/document that the proposed tree planting and retention will contribute to the City's overall canopy cover over time. **Please provide a projection of the future canopy cover for the site to 40 years.**

Feel free to contact Julian Alvarez-Barkham, Forester, for follow-up questions.

Parkland

Comments:

50. Parkland Dedication will be required in accordance with By-law No. 2022-280.

51. The applicable parkland dedication rate for Industrial and Commercial uses is 2% of the gross land area. For Commercial and Industrial redevelopment, gross land area means the portion of the property that is impacted by the development, but not including any hazard lands or natural heritage features identified in the Official Plan, an approved Secondary Plan, or through an environmental impact study accepted by the City;

52. The applicant is advised that they must identify on the survey, site plan or supporting plan the portion of the property impacted by the development, for the purpose of calculating gross land area. The property appears to be impacted by floodplain. Floodplains may be excluded from the area subject to parkland dedication.

53. Parks & Facilities Planning is requesting payment of **Cash-in-lieu-of-Parkland** for this development. The value of the land, equivalent to the Parkland Dedication requirement, will be determined as of the day before planning approval is given for the development. A property valuation will be completed by the City prior to site plan approval at the owner's cost.

54. The conveyance of parkland or the payment of cash-in-lieu of parkland is required unless it can be demonstrated, that the required parkland conveyance or cash-in-lieu of parkland, or combination thereof, has been previously satisfied in accordance with the Planning Act.

55. The application notes a future severance of the lot. The owner is advised that if they provide CIL of parkland for the entirety of the subject property prior to severance, they should not be required to provide further parkland dedication at the time of lot creation.

Feel free to contact Anissa McAlpine, Parks Planner, for follow-up questions.

Conservation Authority

Comments:

56. No concerns with the proposal as no physical development is occurring within the floodplain or regulated area.

Feel free to contact Eric Lalande, Rideau Valley Conservation Authority, for follow-up questions.

Other

The High Performance Development Standard (HPDS) is a collection of voluntary and required standards that raise the performance of new building projects to achieve sustainable and resilient design. The HPDS was passed by Council on April 13, 2022.

a. At this time, the HPDS is not in effect and Council has referred the 2023 HPDS Update Report back to staff with direction to bring forward an updated report to Committee with recommendations for revised phasing timelines, resource requirements and associated amendments to the Site Plan Control By-law by no later than Q1 2024.

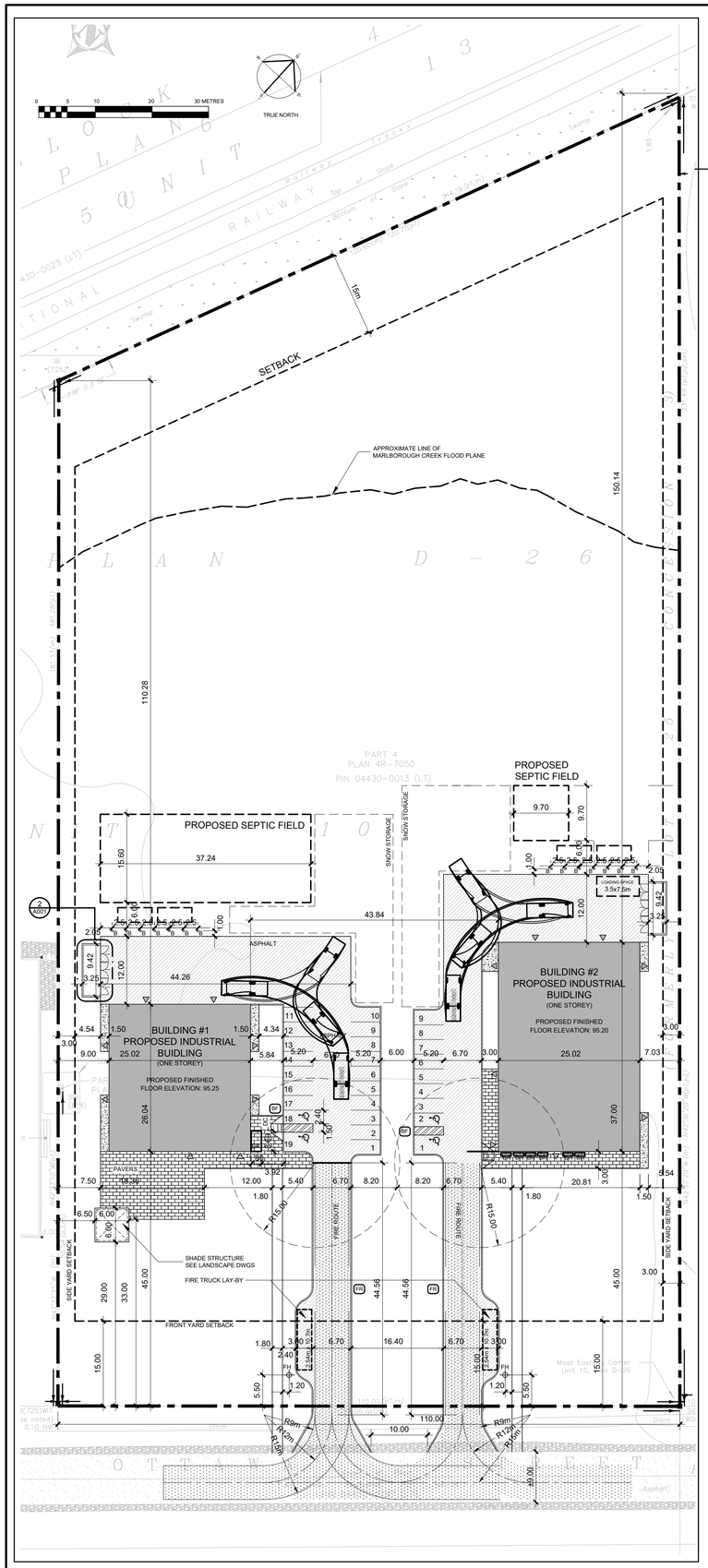
b. Please refer to the HPDS information attached and ottawa.ca/HPDS for more information.

Should there be any questions, please do not hesitate to contact myself or the contact identified for the above areas / disciplines.

Yours Truly,

Stephan Kukkonen

c.c. Smith Travis - Infrastructure Project Manager
Josiane Gervais - Transportation Project Manager
Lisa Stern – Planner III (Urban Design)
Matthew Hayley – Environmental Planner
Julian Alvarez-Barkham – Planning Forester
Anissa McAlpine – Parks Planner
Eric Lalande – Rideau Valley Conservation Authority



1 A-001 SITE PLAN
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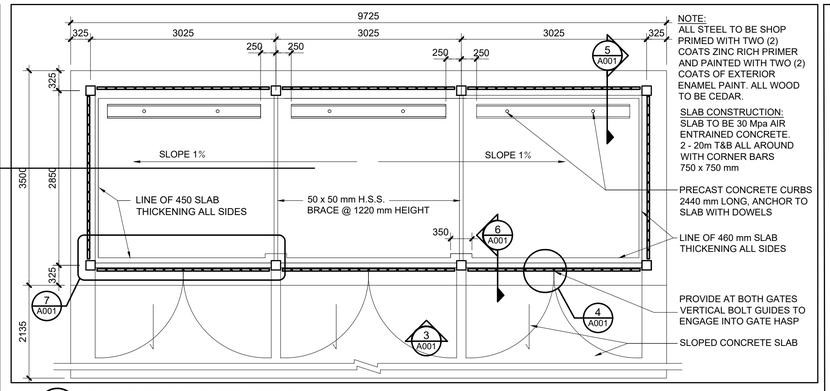

2 A001 GARBAGE ENCLOSURE PLAN
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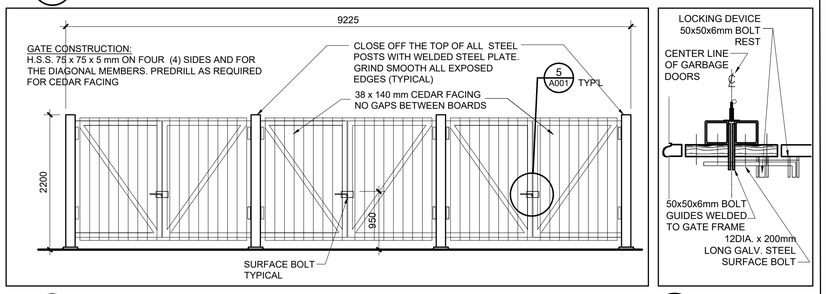
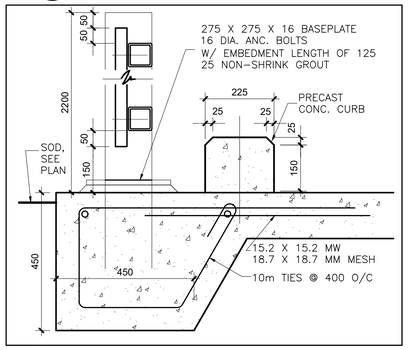


3 A001 GARBAGE ENCLOSURE ELEVATION
SCALE 1:50

4 A001 PLAN DETAIL
SCALE 1:10



5 A001 GARBAGE ENCLOSURE SECTION DETAIL
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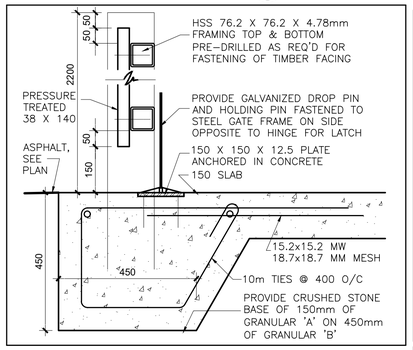

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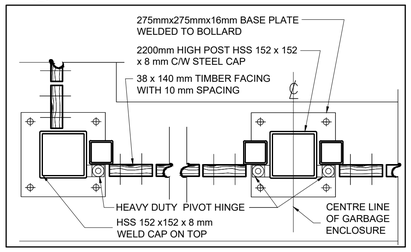

7 A001 GARBAGE ENCLOSURE PLAN DETAIL
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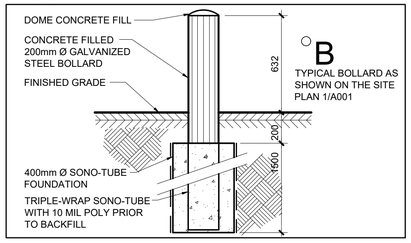


8 A001 BOLLARD DETAIL
SCALE 1:20

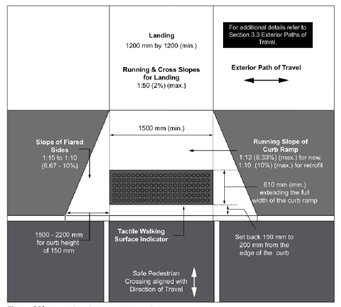


Figure 33b: Typical Curb Ramp Design - Plan View

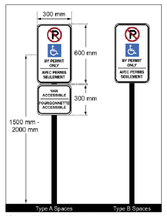


Figure 26: Accessible Parking Vertical Signage

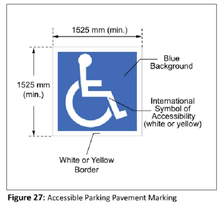


Figure 27: Accessible Parking Pavement Marking

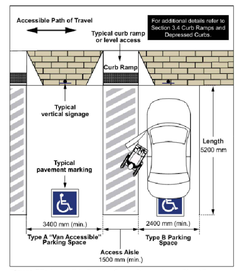


Figure 25: Accessible Parking Space Dimensions - Plan View

ZONING INFORMATION

NOTE: ALL ZONING DEFINITIONS AND REQUIREMENTS AS PER CITY OF OTTAWA ZONING BY-LAW 2008-250

ZONING MECHANISM	REQUIRED	PROVIDED
DEFINITION	RG3 [385r] RURAL GENERAL INDUSTRIAL ZONE	BUILDING #1: WAREHOUSE, RETAIL STORE, BAR (25%) BUILDING #2: WAREHOUSE
MIN. LOT WIDTH	30.0 m	110.0 m
MIN. LOT AREA	2,000 m²	22,680 m² (± 5.6 Acres)
MIN. FRONT YARD SETBACK	15.0 m	45.0 m
MIN. REAR YARD SETBACK	15.0 m	110.0 m
MIN. INTERIOR SIDE YARD SETBACK	3.0 m	9.0 m
MAX. LOT COVERAGE	35%	2.85%
PARKING LANDSCAPE BUFFER	FOR A PARKING LOT CONTAINING 10-100 SPACES: ABUTTING A STREET = 3 m NOT ABUTTING A STREET = 1.5 m	ABUTTING A STREET 3 m NOT ABUTTING A STREET 3 m
STANDARD PARKING SPACE	2.6m WIDTH x 5.2m LENGTH	2.6m WIDTH x 5.2m LENGTH
PARALLEL PARKING SPACE	2.6m WIDTH x 6.7m LENGTH	2.6m WIDTH x 6.7m LENGTH
ACCESSIBLE PARKING SPACE	3.4x5.2m (A); 2.4x5.2m(B)	3.4x5.2m (A); 2.4x5.2m(B)
PARKING REQUIREMENTS	BUILDING#1: LIGHT INDUSTRIAL USE (N49): 0.8 PER 100 m2 FOR THE FIRST 5,000 m2 OF GFA (3.495 REQUIRED) RETAIL STORE (N79): 3.4 PER 100m2 OF GFA (2.75 REQUIRED) BAR (N15): 6 PER 100m2 OF GFA (6.48 REQUIRED) TOTAL REQUIRED: 12.725 BUILDING#2: LIGHT INDUSTRIAL USE (N49): 0.8 PER 100 m2 FOR THE FIRST 5,000 m2 OF GFA (8.336 REQUIRED)	BUILDING#1: 19 PARKING SPACES BUILDING#2: 9 PARKING SACES
BARRIER FREE ACCESSIBLE	AS PER CITY OF OTTAWA ACCESSIBILITY DESIGN STANDARDS, PARGRAPH 3.1.2, TABLE 3 1 TYPE 'A', 1 TYPE 'B'	BUILDING#1: 2 ACCESSIBLE PARKING SPACES (1xTYPE 'A' + 1xTYPE 'B') BUILDING#2: 2 ACCESSIBLE PARKING SPACES (1xTYPE 'A' + 1xTYPE 'B')
LOADING SPACES	GFA 350-999m2 - 0 required	0 PROVIDED
BICYCLE PARKING RATE	BUILDING#1: LIGHT INDUSTRIAL USE: 1 PER 1,000 m2 OF GFA (0.4365 REQUIRED) RETAIL STORE: 1 PER 250 m2 OF GFA (0.32 REQUIRED) BAR: 1 PER 1,500 m2 OF GFA (0.072) TOTAL REQUIRED: 0.8285 BUILDING#2: LIGHT INDUSTRIAL USE: 1 PER 1,000 m2 OF GFA (1.042 REQUIRED)	BUILDING#1: 6 BICYCLE SPACES BUILDING#2: 6 BICYCLE SPACES

SYMBOL LEGEND:

- BLDNG ENTRANCE/EXIT
- FDC — FIRE DEPARTMENT CON
- FH — NEW FIRE HYDRANT
- WM — WATER METER
- DC — NEW DEPRESSED CURB
- NEW CURB
- PROPERTY LINE
- NEW CHAIN LINK FENCE
- B — BOLLARD
- BR — BIKE RACKS

SIGNAGE LEGEND:

- BF — BF PARKING
- FR — FIRE ROUTE

FIRE ROUTE (AS PER OBC 3.2.5):
- 6m WIDE
- 12m CENTRE LINE RADIUS
- 3m CLEAR OF ANY OBSTRUCTIONS AND/OR BUILDINGS
- 15m TO FRONT ENTRANCE
- 90m MAX TO TURN AROUND FACILITES

GROUND COVER LEGEND:

REFER TO LANDSCAPE

GRASS · CONCRETE · ASPHALT · PAVERS

PROJECT INFORMATION (BUILDING#1):

BUILDING CLASSIFICATION:
THE BUILDING IS CLASSIFIED AND DESIGNED TO CONFORM TO THE ONTARIO BUILDING CODE 2024 (CURRENT EDITION) PART 3

MAJOR OCCUPANCY:
GROUP F, DIVISION 2, SPRINKLERED, UP TO TWO STOREY (3.2.2.72)
MINOR OCCUPANCIES:
GROUP E, AND GROUP D

BUILDING STATISTICS:

BUILDING AREA (FOOTPRINT):	623 sq.m.
BUILDING GFA:	738 sq.m.
NUMBER OF STOREYS:	1 (+MEZZANINE)
BUILDING SPRINKLERED:	YES
# OF STREET ACCESS ROUTES:	1
CONSTRUCTION TYPE:	NON-COMB.
FLOOR ASSEMBLY & F.R.R.:	1 HOUR

PROJECT INFORMATION (BUILDING#2):

BUILDING CLASSIFICATION:
THE BUILDING IS CLASSIFIED AND DESIGNED TO CONFORM TO THE ONTARIO BUILDING CODE 2024 (CURRENT EDITION) PART 3

MAJOR OCCUPANCY:
GROUP F, DIVISION 2, SPRINKLERED, UP TO TWO STOREY (3.2.2.72)
MINOR OCCUPANCIES:
GROUP D

BUILDING STATISTICS:

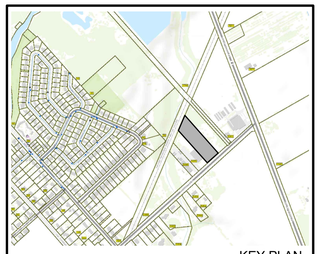
BUILDING AREA (FOOTPRINT):	925 sq.m.
BUILDING GFA:	1,042 sq.m.
NUMBER OF STOREYS:	1 (+MEZZANINE)
BUILDING SPRINKLERED:	YES
# OF STREET ACCESS ROUTES:	1
CONSTRUCTION TYPE:	NON-COMB.
FLOOR ASSEMBLY & F.R.R.:	1 HOUR

TOPOGRAPHICAL PLAN INFORMATION:

SURVEY PROPERTY BOUNDARIES TAKEN FROM TOPOGRAPHICAL PLAN, PLAN OF SURVEY OF PART OF UNIT 10, INDEX PLAN D-26, GEOGRAPHIC TOWNSHIP OF GOULBOURN, CITY OF OTTAWA

PREPARED BY EGIS SURVEYING INC, JULY 9, 2024

STRATFORD FOX RUN
GROUP OF COMPANIES



KEY PLAN

OWNER:
99117756 CANADA INC. c/o JACK GULAS
411 LEGGET DRIVE, SUITE 710, OTTAWA, ONTARIO, K2K 3C9

no.	revision	date
3	ISSUED FOR SPA	29JUL25
2	ISSUED FOR SPA	15MAY25
1	ISSUED FOR SITE PLAN CONTROL	07OCT24

N45 ARCHITECTURE INC.
71 Bank Street, 7th floor - Ottawa, Ontario, K1P 5N2
tel. 613.224.0095 fax 613.224.9811

project
FOXRUN RICHMOND

5923 OTTAWA STREET
OTTAWA, ON

project north

seal
ONTARIO ASSOCIATION OF ARCHITECTS
VLADIMIR POPOVIC
LICENCE 5918

drawing title
SITE PLAN

scale AS NOTED	drawn by NF
date JUNE 2022	checked by VP
project number 24-826	drawing number A-001

CONTRACTOR TO VERIFY ALL DIMENSIONS AND NOTIFY THE ARCHITECT OF ANY DISCREPANCIES BEFORE WORK COMMENCES.
DO NOT SCALE DRAWINGS.

revision -

APPENDIX C
WATERMAIN CALCULATIONS

CCO-25-0415 - 5923 Ottawa Street - Water Demands - Phase 1

Project:	5923 Ottawa Street
Project No.:	CCO-25-0415
Designed By:	FV
Checked By:	AG
Date:	September 10, 2025
Development Area:	0.48 gross ha

Commercial	190 m2
Industrial - Light (Distillery)	432 m2

AVERAGE DAILY DEMAND

DEMAND TYPE	AMOUNT	UNITS
Residential	280	L/c/d
Industrial - Light	35,000	L/gross ha/d
Industrial - Heavy	55,000	L/gross ha/d
Shopping Centres	2,500	L/(1000m² /d
Hospital	900	L/(bed/day)
Schools	70	L/(Student/d)
Trailer Park with no Hook-Ups	340	L/(space/d)
Trailer Park with Hook-Ups	800	L/(space/d)
Campgrounds	225	L/(campsite/d)
Mobile Home Parks	1,000	L/(Space/d)
Motels	150	L/(bed-space/d)
Hotels	225	L/(bed-space/d)
Tourist Commercial	28,000	L/gross ha/d
Other Commercial	28,000	L/gross ha/d

AVERAGE DAILY DEMAND	Residential	0.00	L/s
	Commercial/ Industrial/ Institutional	0.02	L/s

MAXIMUM DAILY DEMAND

DEMAND TYPE	AMOUNT		UNITS
Residential	9.5	x avg. day	L/c/d
Industrial	1.5	x avg. day	L/gross ha/d
Commercial	1.5	x avg. day	L/gross ha/d
Institutional	1.5	x avg. day	L/gross ha/d

MAXIMUM DAILY DEMAND	Residential	0.00	L/s
	Commercial/ Industrial/ Institutional	0.04	L/s

MAXIMUM HOUR DEMAND

DEMAND TYPE	AMOUNT		UNITS
Residential	14.3	x avg. day	L/c/d
Industrial	1.8	x max. day	L/gross ha/d
Commercial	1.8	x max. day	L/gross ha/d
Institutional	1.8	x max. day	L/gross ha/d

MAXIMUM HOUR DEMAND	Residential	0.00	L/s
	Commercial/ Industrial/ Institutional	0.06	L/s

WATER DEMAND DESIGN FLOWS PER UNIT COUNT
CITY OF OTTAWA - WATER DISTRIBUTION GUIDELINES, JULY 2010

AVERAGE DAILY DEMAND	0.02	L/s
MAXIMUM DAILY DEMAND	0.04	L/s
MAXIMUM HOUR DEMAND	0.06	L/s

CCO-25-0415 - 5923 Ottawa Street - Water Demands - Phase 2

Project:	5923 Ottawa Street
Project No.:	CCO-25-0415
Designed By:	FV
Checked By:	AG
Date:	September 10, 2025
Development Area:	0.45 gross ha

Industrial - Light (Brewery) 926 m2

AVERAGE DAILY DEMAND

DEMAND TYPE	AMOUNT	UNITS
Residential	280	L/c/d
Industrial - Light	35,000	L/gross ha/d
Industrial - Heavy	55,000	L/gross ha/d
Shopping Centres	2,500	L/(1000m² /d
Hospital	900	L/(bed/day)
Schools	70	L/(Student/d)
Trailer Park with no Hook-Ups	340	L/(space/d)
Trailer Park with Hook-Ups	800	L/(space/d)
Campgrounds	225	L/(campsite/d)
Mobile Home Parks	1,000	L/(Space/d)
Motels	150	L/(bed-space/d)
Hotels	225	L/(bed-space/d)
Tourist Commercial	28,000	L/gross ha/d
Other Commercial	28,000	L/gross ha/d

AVERAGE DAILY DEMAND	Residential	0.00	L/s
	Commercial/ Industrial/ Institutional	0.04	L/s

MAXIMUM DAILY DEMAND

DEMAND TYPE	AMOUNT		UNITS
Residential	9.5	x avg. day	L/c/d
Industrial	1.5	x avg. day	L/gross ha/d
Commercial	1.5	x avg. day	L/gross ha/d
Institutional	1.5	x avg. day	L/gross ha/d

MAXIMUM DAILY DEMAND	Residential	0.00	L/s
	Commercial/ Industrial/ Institutional	0.06	L/s

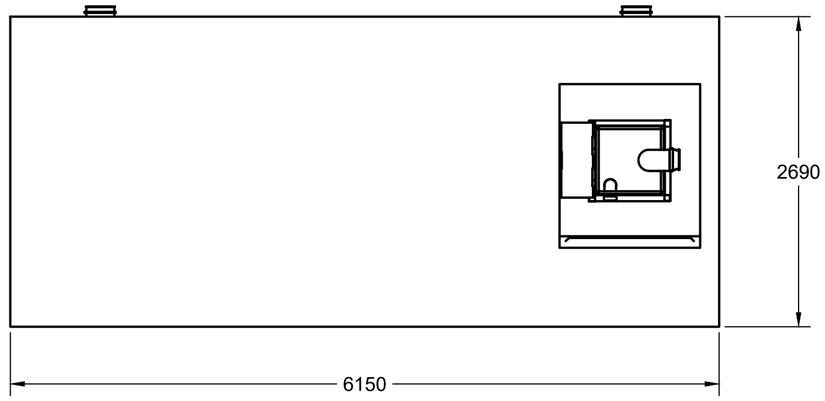
MAXIMUM HOUR DEMAND

DEMAND TYPE	AMOUNT		UNITS
Residential	14.3	x avg. day	L/c/d
Industrial	1.8	x max. day	L/gross ha/d
Commercial	1.8	x max. day	L/gross ha/d
Institutional	1.8	x max. day	L/gross ha/d

MAXIMUM HOUR DEMAND	Residential	0.00	L/s
	Commercial/ Industrial/ Institutional	0.10	L/s

WATER DEMAND DESIGN FLOWS PER UNIT COUNT
CITY OF OTTAWA - WATER DISTRIBUTION GUIDELINES, JULY 2010

AVERAGE DAILY DEMAND	0.04	L/s
MAXIMUM DAILY DEMAND	0.06	L/s
MAXIMUM HOUR DEMAND	0.10	L/s



TOTAL VOLUME: 45000L

CONCRETE: 35MPa WITH 5-8% AIR ENTRAINMENT
NON SULPHATE RESISTANT

REINFORCING: GRADE 400W CONFORMING TO CSA G30.18
15M @ 200mm ON CENTRE EACH WAY
ADDITIONAL 15M AROUND PERIMETER AT SEAM BETWEEN SECTIONS
15M x900mm ON DIAGONAL AT EACH CORNER OF LID OPENING

WEIGHT:

TOP SECTION	19000KGS
BOTTOM SECTION	19000KGS
TOTAL	38000KGS

MAXIMUM BURIAL DEPTH: 1200MM OF GROUND COVER IN AREA OF NON-VEHICULAR TRAFFIC

WATER TIGHTNESS: 2X ROWS CON-SEAL CS-102 MASTIC SEALANT BETWEEN SECTIONS. SEALANT APPLIED ONSITE BY BOYD BROS CONCRETE ACCORDING TO MANUFACTURER'S RECOMMENDED METHOD

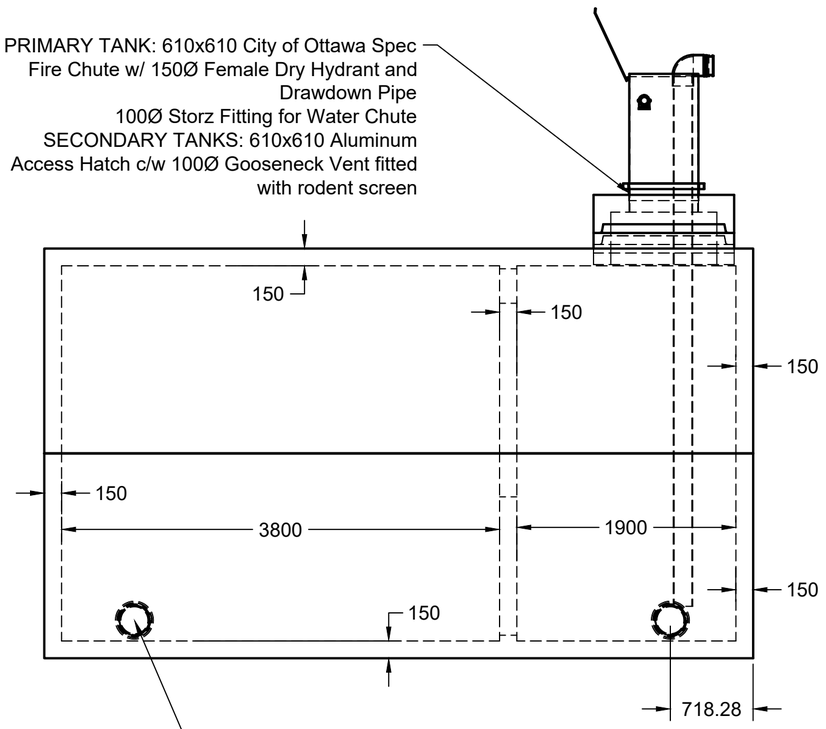
PIPE/WALL CONNECTIONS: 200mmØ Flexible Rubber Bootseal for PVC Supply Line

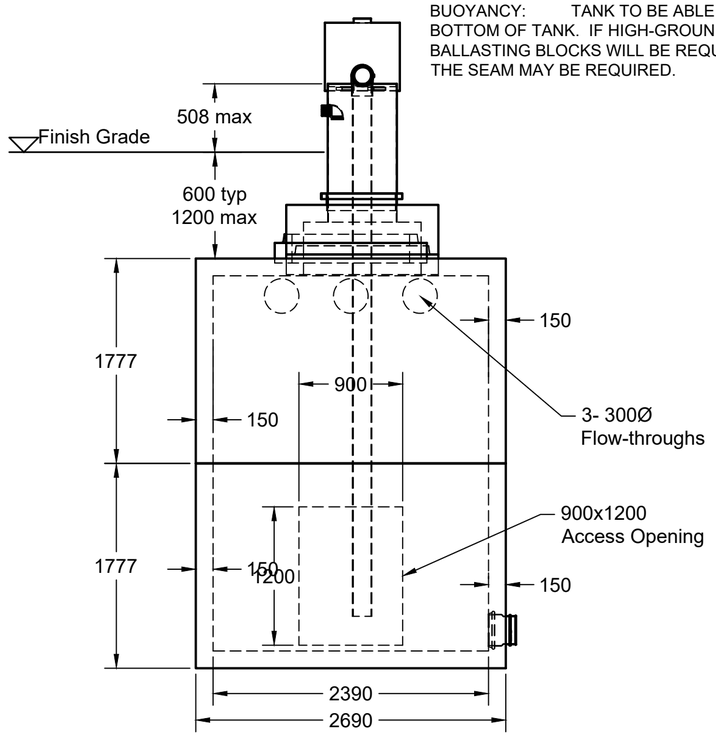
ACCESS OPENINGS:
PRIMARY TANK: 610X610 CITY OF OTTAWA SPEC FIRE CHUTE FOR FIRETRUCK CONNECTION
SECONDARY ACCESS (OPTIONAL) :1200x1300 CAST-IN RISER FLANGE WITH 610X610 DRIP PROOF ALUMINUM ACCESS HATCH
900X1200 OPENING IN DIVIDER WALL FOR ACCESS TO BOTH CHAMBERS FROM ONE ACCESS POINT

OPTIONAL STAINLESS STEEL BOLT-ON LADDER OPTIONAL

TANK DESIGN CONFORMS TO CSA STANDARD B66-15 WITH A NON-TRAFFIC LOAD ON TOP, AND WITH HEAVY TRUCK LOADING DIRECTLY ADJACENT TO TANK TO ACCOMODATE FIRE TRUCK TO BE WITHIN 1M OF WATER DRAW-DOWN CHUTE, AS PER FIRE DEPT.

BUOYANCY: TANK TO BE ABLE TO WITHSTAND GROUNDWATER UP 2.0M FROM BOTTOM OF TANK. IF HIGH-GROUNDWATER LEVEL IS IN EXCESS OF THIS, ADDITIONAL BALLASTING BLOCKS WILL BE REQUIRED. ADDITIONAL WATERPROOFING MEASURES AT THE SEAM MAY BE REQUIRED.





bb boyd bros concrete products
5450 Cuddy St Osgoode, ON K0A 2W0
tel: (613) 826.2318 fax: (613) 826.3679
toll free: 888.846.6664
website: www.boydbrosconcrete.ca
email: info@boydbrosconcrete.ca

PROJECT
Boyd Bros Concrete

TITLE
45000 Fire Tank

DRAWN Rob Sanna 6/19/23 APPROVED

SIZE	DWG NAME	REV
C	45000 Fire Tank	3

SCALE 1:40 | WEIGHT 35000kgs | SHEET 1/1

August 21, 2025

Jack Gulas
Stratford Foxrun
6286 Prince of Wales Drive
North Gower, ON
K0A 2T0

EMAIL: jack@stratfordfoxrun.com
CC: josh.laginski@outlook.com

Dear Jack:

RE: 5923 OTTAWA STREET DISTILLERY WATER STORAGE VOLUME ESTIMATE LRI FILE 2025-04-0654

PROJECT DESCRIPTION

The project at 5923 Ottawa Street, Ottawa, ON includes two buildings on one site to be used for a mix of industrial and assembly occupancies. Building 1 includes a distillery, mezzanine-level offices, a bar/tasting area, a retail store, and an outdoor patio. Building 2 includes a brewery, some storage space, a bottling line, and associated office space for staff of the site's operations.

The buildings are subject to the 2024 Ontario Building Code (OBC), and as such, are required to be supplied with water for firefighting purposes. The site and surrounding area are not connected to a municipal water supply for firefighting. As a result, water must be stored on site for this purpose. This letter is intended to summarize LRI's analysis of the buildings, the OBC, and OFS documentation regarding the applicable rules and regulations which help assess the required amount of water to be stored on site.

For clarity, the analysis below is based upon the design information available at this time, and is considered an order of magnitude estimate, subject to refinement when the sprinkler and fire pump systems for the buildings are designed. This detailed design is most commonly completed following building permit submission. The objective of the analysis is to explain the fire safety rationale applied to the buildings and to assist the design team and reviewers in aligning on an acceptable water volume to be stored on a general basis.

BUILDING DESCRIPTION

The subject site includes two buildings: Building 1, and Building 2. These buildings have the following characteristics based on the provided architectural drawings:

Building 1:

- One storey in building height, with mezzanine
- 8.5 m in height
- 647 m^2 in building area
- Sprinklered throughout
- Occupancies include:
  - Distillery
  - Offices
  - Bar/assembly
  - Retail

Building 2:

- One storey in building height, with mezzanine
- 8.5 m in height
- 926 m^2 in building area
- Sprinklered throughout
- Occupancies include:
  - Mashing/bottling
  - Brewery
  - Storage mezzanine
  - Offices

CODE REQUIREMENTS

In conformance with OBC 3.2.5.7 “every building shall be provided with an adequate water supply for firefighting”. As clarified by OBC Appendix A-3.2.5.7.(2) for sprinklered buildings, “water supply additional to that required by the sprinkler systems should be provided for firefighting using fire hoses in accordance with the hose stream demands and water supply durations for different hazard classifications as specified in NFPA 13, “Installation of Sprinkler Systems”.

Since the buildings are sprinklered, the water storage volume estimate, therefore, needs to provide sufficient water for the sprinklers to operate, plus necessary hose demands from fire crews.

In conformance with Technical Bulletin IWSTB-2024-05, rural fire flow calculation methods are to follow the Appendix J flow chart. Specifically, since both buildings are required to be sprinklered for insurance reasons, the highlighted green path will be followed:

Appendix J RURAL FIRE FLOW CALCULATION PROCESS

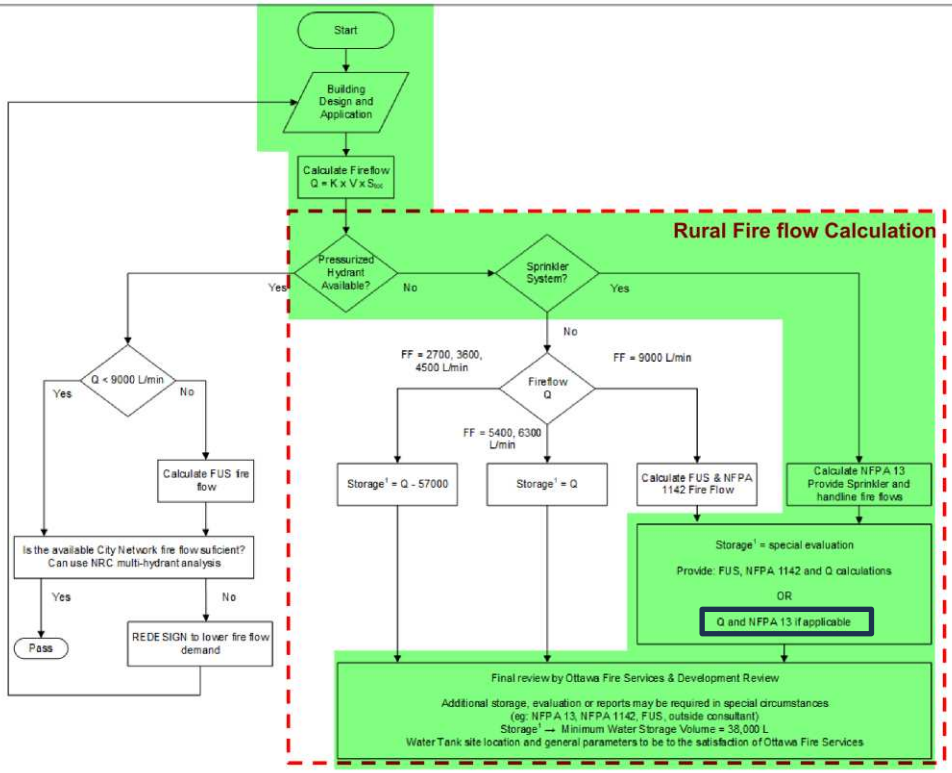


Figure J.1: Rural Fire Flow Calculation Process.

City of Ottawa Appendix J-2 November 2024

The following section outlines the methodology used for the storage volume estimates to permit OFS review.

METHODOLOGY

OBC-based Q volume analysis:

The following analysis uses the OBC-prescribed method to assess volumes based on the following inputs:

Q = K x V x Stot, where

Q = minimum supply of water in litres
K = water supply coefficient from the OBC
V = total building volume in cubic metres (m^3)
Stot = total of spatial coefficient values from property line exposures on all sides.

Building 1:

Variable	Value	Notes
Q	177,100 L, with 5,400 LPM minimum flow rate	
K	23	Conservatively assumes Group F, Division 1 occupancy despite pending alternative solution. Also assumes compliant 3.2.2. noncombustible construction.
V	5,500	Based on area and building height
Stot	1.4	0.4 penalty assigned to southwest face with limiting distance of 9 m

Building 2:

Variable	Value	Notes
Q	173,949 L, with 5,400 LPM minimum flow rate	
K	17	Assumes Group F, Division 2 occupancy. Also assumes compliant 3.2.2. noncombustible construction.
V	7,871	Based on area and building height
Stot	1.3	0.3 penalty assigned to southeast face with limiting distance of 7 m

Based on the OBC volume Q analysis presented above, the calculated minimum supply of water required storage volumes of up to approximately 177,100 L for Building 1, or 173,949 L for Building 2. This translates to a minimum required flowrate of 5,400 LPM for both buildings at 30 minutes of supply duration.

As outlined in IWST-2024-05, for a proposed building equipped with a sprinkler system designed in accordance with NFPA 13, the OBC calculations noted above should be completed, and an additional NFPA 13 special evaluation may be carried out to determine the sprinkler water storage requirements.

NFPA 13-based volume analysis:

As the buildings will both be protected by automatic sprinkler systems, Appendix A demonstrates water volume calculations for the sprinkler systems anticipated to be designed for each building. It should be noted that these volumes are estimates, and final hydraulic designs will dictate the final volume requirements. At this time, the expected volume is to include sufficient water to supply the most demanding hydraulic area assuming one fire in one building at a time, includes for a 20% factor calculated based on water volumes discharged by the sprinklers, and considers NFPA 13-mandated hose demand calculations.

The calculations assume a sprinkler design on a "room area" method wherein different rooms must be individual enclosed fire compartments to permit the hydraulic area to be shrunk to the size of the room. This assumes that a fire separation will contain the fire during the time required for sprinkler operation.

The following tables summarize the assumed hazard classifications for the rooms. These assumptions are based off a combination of NFPA 13 compliance requirements, requirements described by the Distilled Spirits Council of the United States (DISCUS), and based on LRI's expectation that the distillery/bar occupancy approach will require an alternative solution and correspondingly increases sprinkler density to improve suppression potential in support of that effort.

Room	Area (ft^2)	Expected Occupancy Classification
Building 1		
Grain Handling	238	Ordinary Hazard Group 2
Brewing/bottling	2,383	Ordinary Hazard Group 2 (aligns with DISCUS recommendations)
Boiler Room	277	Ordinary Hazard Group 1
Still house/still room	965	Extra Hazard Group 1 to support alternative solution approach
Office Mezzanine	1,182	Light Hazard
Kitchen	190	Ordinary Hazard Group 1*
Bar	1,632 (hydraulic area assumed limited to 1500 ft^2)	Light Hazard*
Retail	885	Ordinary Hazard Group 2
Building 2		
Mashing/brewing	6,050 (hydraulic area assumed limited to 2000 ft^2 per DISCUS)	Ordinary Hazard Group 2
Bottling	2,370 (hydraulic area assumed limited to 3000 ft^2 or room area DISCUS)	Ordinary Hazard Group 2
Office and admin area	1,095	Light Hazard
Storage mezzanine	1,185	Ordinary Hazard Group 2

* Note that depending on the hydraulic design, the kitchen and portions of the bar may end up being calculated together as a remote area. Their cumulative effect has been considered in Appendix A

As depicted in Appendix A, based on the NFPA 13 analysis presented above, expected storage volumes for both sprinkler and hose demand would result in required storage volumes of up to approximately 288,000 L for Building 1, or 243,000 L for Building 2. Both of these values are very high, and represent the provision of at least 100% of the NFPA 13-mandated volumes for both sprinkler operation and hose demands, for durations ranging between 30 minutes and 90 minutes (depending on NFPA 13 criteria). In order to provide a more reasonable estimate, in light of the IWSTB documentation and OFS firefighting capacity, the following section evaluates the impact that water shuttling can have on the required storage volume.

Influence of OFS Superior Tanker Shuttle level on the required storage volume:

IWSTB 2024-05 does not explicitly clarify if or how OFS Superior Tanker Shuttle service contributes to NFPA 13-derived water storage volume analysis. As a result, engineering judgement and alignment with the AHJ is necessary.

In conformance with IWSTB 2024-05, OFS is capable of delivering 1,900 LPM within 5 minutes of arrival. As such, some credit should be permissible to account for the fire department's ability to replenish stored water volumes during a fire. As a result, the proposed storage volumes consider a reduction of 1,900 LPM for the NFPA 13 mandated duration of the fire as a reasonable value. This effectively replenishes the hose demand required for higher hazard occupancies and exceeds that required for lower hazard occupancies. The resultant conclusions presented below and in Appendix A represent an amount of water stored that exceeds the minimum required by IWSTB 2024-05, is comparable to OBC-required amounts for unsprinklered buildings, and represents the ability of the system to automatically supply the sprinklers for the NFPA 13-derived duration of the fire without extra volumes. In other words, sufficient water is expected to be stored to supply the sprinklers automatically, allow initial fire crews to have access to water for hose lines, and provide time for shuttling water to start supplementing the available stored water.

	Building 1	Building 2
OBC based Q Evaluation	177,100 L	173,949 L
NFPA 13 Evaluation	288,442 L	242,574 L
NFPA 13 Evaluation w/Superior Tanker Shuttle Service Reduction	118,117 L	129,024 L

CONCLUSION

This letter summarizes LRI's review of the proposed building project at 5923 Ottawa Street, and the required firefighting water volumes to be stored on site.

As the buildings are sprinklered, and in conformance with IWSTB 2024-05, a special assessment aligning with NFPA 13 has been provided. This is summarized in Appendix A.

The resultant water volume to be stored is expected to be designed to accommodate the highest required volume of either building, is to be shared between both buildings, and assumes one fire in one building at a time. This assumption is reasonable, especially given the large separation distance between both buildings on the same property.

The resultant water volume also considers the impact of OFS water shuttling on the required amount.

Based on this analysis, stored water volumes of approximately 130,000 L are recommended at this time, with final volumes being determined based on detailed sprinkler and fire pump design criteria.

Sincerely,
LRI ENGINEERING

Matthew Hopley, M.Eng., P.Eng [AB]
Branch Manager - Alberta

Reviewed by,
LRI ENGINEERING

Jin Chen, M.Eng., P.Eng.
Associate

NFPA 13 Water Volume Estimate Analysis	
LRI Engineering	
Date	21-Aug-25
Site	5923 Ottawa Street
Prepared By	Matthew Hopley
Reviewed By	Jin Chen

Building 1

Safety Margin on Sprinkler only
20%

	Area (ft2)	Density (gpm/ft2)	Volume (gpm)	Duration (minutes)	Capacity (L)	Hose Demand (gpm)	Duration (minutes)	Capacity (L)	Combined (L)	Shuttling Allowance (lpm)	Duration (minutes)	Total Storage Volume (L)
Grain Handling (OH2)	238	0.2	47.6	60	**10,810**	250	60	56,700	69,672	-1,893	60	-43,878
Brewing and Bottling/Process (DISCUS)	3000	0.2	600	60	**136,260**	250	60	56,700	220,212	-1,893	60	106,662
Boiler Room (OH1)	277	0.15	41.55	60	**9,436**	250	60	56,700	68,023	-1,893	60	-45,527
Distillery (DISCUS)	965	0.2	193	90	**65,745**	500	90	170,100	248,995	-1,893	90	78,670
Distillery (as EH1 for AS)	965	0.3	289.5	90	**98,618**	500	90	170,100	288,442	-1,893	90	**118,117**
Office Mezzanine (LH)	1182	0.1	118.2	30	**13,422**	100	30	11,340	27,446	-1,893	30	-29,329
Kitchen (OH1)	190	0.15	28.5	60	**6,472**	250	60	56,700	64,467	-1,893	60	
Bar (LH) (limited to 1500 ft2)	1632	0.1	150	30	**17,033**	100	30	11,340	31,779	-1,893	30	
Kitchen + Bar					**23,505**	250	60	56,700	84,906	-1,893	60	-28,644
Retail (OH2)	885	0.15	132.75	60	**30,148**	250	60	56,700	92,877	-1,893	60	-20,673

Building 2

Safety Margin on Sprinkler only
20%

	Area (ft2)	Density (gpm/ft2)	Volume (gpm)	Duration (minutes)	Capacity (L)	Hose Demand (gpm)	Duration (minutes)	Capacity (L)	Combined (L)	Shuttling Allowance (lpm)	Duration (minutes)	Total Storage Volume (L)
Mashing (DISCUS), 2000 sqft max area	6050	0.2	400	60	**90,840**	250	60	56,700	165,708	-1,893	60	52,158
Bottling, 3000 sqft max area	2370	0.2	474	60	**107,645**	500	60	113,400	242,574	-1,893	60	**129,024**
Office and admin (light hazard)	1095	0.1	109.5	30	**12,434**	100	30	11,340	26,260	-1,893	30	-30,515
Storage mezzanine (OH2)	1185	0.2	237	60	**53,823**	250	60	56,700	121,287	-1,893	60	7,737

August 21, 2025

Jack Gulas
Stratford Foxrun
6286 Prince of Wales Drive
North Gower, ON
K0A 2T0

EMAIL: jack@stratfordfoxrun.com
CC: josh.laginski@outlook.com

Dear Jack:

RE: 5923 OTTAWA STREET OCCUPANCY ALTERNATIVE SOLUTION ROADMAP LRI FILE 2025-08-0269

INTRODUCTION

The project at 5923 Ottawa Street, Ottawa, ON includes two buildings on one site to be used for a mix of industrial and assembly occupancies. This letter is intended to help provide relevant information regarding the intended design and compliance process relative to the occupancy classification for the distillery building (Building 1). This letter's framework (or roadmap) summarizes important parts of the analysis that have been undertaken for the project, as well as future elements to be incorporated into the design of the building to align the design and use of the building to meet the level of safety required by the OBC. The overall approach will require an alternative solution to be submitted as part of the building permit process. This letter is not considered to be a formal alternative solution, but is instead, intended to allow project stakeholders to understand what future submissions will include to help inform processes such as development permit approval.

CONCEPT DISCUSSION

Building 1 at 5923 Ottawa Street, Ottawa, ON will include a distillery, some mezzanine offices, a bar/tasting area, a retail store, and an outdoor patio. The second building (Building 2) is an industrial building intended to comply with the acceptable solutions of the building code and is understood to be treated primarily as a Group F, Division 2 major occupancy (with other lower hazard subsidiary occupancies).

Buildings are required to be classified as a function of their major occupancies. OBC Article 3.1.2.1 specifies that a building is to be classified in conformance with this Article and includes Appendix A, Division B-3.1.2.1.(1) which gives examples of various occupancies, including distilleries as an example of a Group F, Division 1 high hazard industrial occupancy.

Similarly, OFC Sentence 4.9.1.1.(2) outlines that the "parts of a building in which distilled beverage alcohol is distilled, processed or stored in bulk shall be classified as high hazard industrial occupancies".

The definition of distillery is generally understood to have not considered the potential for smaller operations. Conversely, "craft" or "micro" distilleries are not defined in any meaningful sense within the Building/Fire codes. Notwithstanding, absent a definition of "sufficient quantities" and "special fire hazard", the strict application of the Code to all distilleries in all cases fails to acknowledge that where the quantities of alcohol are moderate and where fire safety features are sufficient, the level of risk of craft distilleries can be managed to an extent where the hazard is comparable to a medium-hazard industrial occupancy.

As a result, consideration pertaining to the OBC and the construction of distilleries must be reviewed in order to develop a compliant structure. The approach to protection in this design intends to incorporate features which limit the potential for fires and explosion with multiple layers of active and passive fire safety features. Explosion risks are mitigated by reducing the probability of an explosion occurring in the first place, rather than mitigating the consequence of the explosion through deflagration venting which offers little protection to those near the hazard. In addition to the use of mitigating design features, the use of a risk index serves to quantify what can be considered a "special fire hazard", and at what point a fire hazard is no longer "special". This risk indexing demonstrates that in combination with the safety features described in this report, that restricting the size and risks posed by the distillery itself further meets the requirements of the Code.

As this is a small craft distillery which processes and produces significantly smaller amounts of products, it is proposed that the hazard associated with the operation is considerably lower than the original intent of the Code, which did not consider the potential for smaller craft-style distilleries. The conclusion of this report is that where a sufficiently small, appropriately fire-protected distillery is installed in a building, the level of risk presented by the craft distillery is at least as low as a comparable medium-hazard industrial Group F, Division 2 occupancy. The future alternative solution will also provide details on requirements from the Building and Fire Codes which are considered essential for distillery operations of any size. The sections of this letter below provide an overview of how the subject distillery will be assessed in terms of occupancy classification, and outline the provided means to mitigate the design related risk to a level that aligns with the OBC requirements for medium-hazard industrial occupancies.

BUILDING DESCRIPTION

The subject site includes a distillery within Building 1, which consists of the following:

- One storey in building height, with mezzanine
- 8.5 m in height
- 647 m^2 in building area
- Sprinklered throughout
- Occupancies include:
    - Distillery
    - Offices
    - Bar/assembly
    - Retail

DISTILLERY PROCESS DESCRIPTION

The distillery portion of the building (still house) consists of distillation equipment located in one fire compartment within Building 1. The still house will be fire separated from the remainder of the building and includes the following equipment that includes alcohol above 20% ABV (which is the concentration at which the OFC defines the subject liquids as distilled beverage alcohol).

- Four totes containing 2,000 L each (8,000 L);
- One Doubler containing 500 L;
- One Pot Still containing 3,500 L;
- Two column Stills containing approximately 100 L each during use (200 L);

The total volume of higher proof ethanol above 20% ABV then totals approximately 12,200 L at varying concentrations above 20% ABV, ranging up to 95% ABV at the highest concentration.

CODE REQUIREMENTS

When assessing required fire safety features, it is important to assess the overall risk that a given process presents, which considers both the probability and magnitude of various hazards. In order to effectively analyze, identify, and mitigate the relevant hazards, a rigorous, practical, repeatable, and industry-accepted methodology needs to be applied. The objective of the assessment is to review a proposed process (the distillery), assess the hazards, and where necessary, add mitigating measures to reduce the level of risk such that it aligns with that accepted by the OBC.

Ultimately, the assessment in the future alternative solution will demonstrate that the occupancy will present a comparable level of risk as that posed by a medium-hazard industrial occupancy. The assessment considers more simplistic properties, such as fuel load concentrations, but also incorporates more advanced assessments to better highlight where necessary process changes or additional protection may be required.

METHODOLOGY

To mitigate the potential damage and harm that could arise from a fire or explosion occurring from within the distillery portion of the building, extra protection measures will be provided to both reduce the probability of explosions and limit the consequences of a fire or explosion should one occur. A measure must be provided to demonstrate that the proposed design mitigates the risks of fires and explosions to the level required by Code to permit the classification of the unit as a Group F, Division 2 major occupancy. For this project, it is proposed to use the DOW Fire and Explosion risk index (DOW F&EI) to provide a quantitative, relative measurement of the site's risk profile.

Fire risk indexes serve a role in fire protection by striking a balance between qualitative approaches which may or may not provide adequate detail or granularity, and fully quantitative methods which can be expensive, labour intensive, slow, and which tend to require specialist knowledge to adequately judge. "[The DOW F&EI guide] is intended to provide a direct and logical approach for determining the probable "risk exposure" of a process plant and to suggest approaches to fire protection and loss prevention design. An important application of the F&EI is to help decide when a more detailed quantitative risk analysis is warranted, as well as the appropriate depth of such a study"[1].

[1] Society of Fire Protection Engineers, SFPE Handbook of Fire Protection Engineering, 5th Edition, page 3162

The DOW F&EI method was developed by the Dow Chemical corporation where the first edition was released in 1964. Since its first release, the index has been used by DOW and other entities in the chemical industry. The current version, the 7th edition was released in 1994 and is still in use today. The DOW F&EI is "the leading hazard index recognized by the chemical industry" and "provides key information to help evaluate the overall risk from fire and explosion"[2]. The method follows a regimented step-by-step process which is applied to each process unit of a plant. Expertise in selecting specific penalty values is needed, but the available guide to how each should be applied helps explain the rationale behind selecting certain values.

The full DOW F&EI follows a thirteen-step process to determine a variety of outputs which includes the index score, the area of exposure, a damage factor, and additional economic measurements used to analyse process plant layouts and designs. For the purpose of this analysis, the critical output of the analysis is to assess the F&EI score. This score is a function of the process material factor, general process hazard penalties, and special process hazard penalties.

The base score without loss control credit factors applied will be reviewed. Furthermore, an offset version of the score will be reviewed considering the methods proposed by Gupta3. The base DOW F&EI score will be considered appropriate where it does not exceed the threshold for "intermediate" hazards (a score of 127 or lower in the DOW F&EI). The offset score will be evaluated, and relevant mitigating features will be added to achieve an offset score in the "moderate" hazard range (a score of 96 or lower). Scores below this threshold can generally be managed through standard fire protection and building design measures, would not represent a special fire hazard, and would more closely align with the hazards typical of a medium-hazard industrial occupancy.

DEGREE OF HAZARD FOR F&EI	
F&EI INDEX RANGE	**DEGREE OF HAZARD**
1 - 60	Light
61 - 96	Moderate
97 - 127	Intermediate
128 - 158	Heavy
159 - up	Severe

TYPICAL MITIGATING MEASURES

As outlined in the previous section, the use of the DOW F&EI analysis will firstly evaluate the proposed process and associated process units within the still house. Where a given process unit (or the collective group of units) produces an unacceptably high index score, the process can be adjusted to present a lower overall risk. Ways to address the raw hazard index score include process equipment changes like volume or operating pressure, ventilation within the process unit area, improving spill control or drainage, amongst other inherent features within the distillery area. The processes would be adjusted such that the raw score remains in the acceptable range (127 or lower) as indicated above, and then

[2] American Institute of Chemical Engineers, DOW's Fire & Explosion Index Hazard Classification Guide, 7th Edition, 1994, Page 1.
[3] J.P Gupta, G. Khemani, M. S. Mannan, "Calculation of Fire and Explosion Index (F&EI) value for the Dow Guide taking credit for the loss control measures", Journal of Loss Prevention in the Process Industries, Issue 16, 2003, pages 235-241.

mitigating features are added to the building design to reduce that score to an "offset" value that is in the "moderate" range or below.

The following offset measures are used in the DOW F&EI and can be considered as the design develops and have been used in various distilleries, but for clarity, are not all necessarily required pending design development:

- Emergency power;
- Emergency cooling systems;
- Explosion control;
- Emergency shutdown systems;
- Computer control (as opposed to manual process units);
- Written/detailed operating instructions (including emergency procedures);
- Leak detection;
- Sprinkler systems;
- Hand extinguishers/monitors.

From an OBC and OFC perspective, the following features must be considered and, where deemed necessary, incorporated into a given design in order to assess a given craft distillery as a medium-hazard industrial occupancy and to meet the objective and functional statements:

Rapid fire spread mitigation	**Explosion risk mitigation**
Limited maximum capacities of flammable liquids	Flammable vapour detection
Emergency containment and drainage	Closures and if they must be integrated with an LEL detection system
Enhanced sprinkler protection within the distillery	Integration of LEL detection system and fire alarm system
Fire separations between occupancies and from exits	Ventilation throughout distillery
Noncombustible construction, with combustible elements only where it is permissible	Still pressure relief and tank venting routed to the outside, with flame arrestors on vents
Combustible content limits below those historically associated with high-hazard industrial occupancies, and which align well with modern medium-hazard industrial occupancies	Appropriate pressure relief of still equipment
	Still pressure monitoring
	Process interlocks (both for still piping and ventilation)
	Classified electrical equipment within hazardous areas
	Indirect fired stills, no open flames to heat process equipment
	Computer temperature still control

By completing this analysis, adjusting necessary design parameters within the context of the building permit submission package alongside the responsible Professionals, it will be shown that the process units and proposed occupancy classification can align with the requirements for a Group F, Division 2 medium-hazard industrial occupancy.

OTHER APPROVED DISTILLERIES

A range of distilleries have been analyzed and approved using the method outlined above, with LRI's involvement including:

- Ogham Craft Spirits Micro-Distillery, Ottawa, ON
- Burwood Distillery, Calgary, AB
- True Wild Distillery, Calgary, AB
- Spirit in Niagara Distillery, Niagara, ON

CONCLUSION

The proposed project to be located at 5923 Ottawa Street, Ottawa, includes two buildings located on one site. Building 1 includes a distillery area within the building to be used for the production of craft spirits. Since this necessarily involves the production and handling of distilled beverage alcohol, as indicated by the OBC Appendix and OFC, the acceptable solutions would ordinary mandate this be classified as a Group F, Division 1 high hazard industrial occupancy. As explained in this letter, these requirements have historically been included as a result of prior production volume mandates and used for large-scale industrial processes. No consideration is given in either code for the size, volume, and protective features that might be included in a distillery which can thereby reduce the overall risk to a level below a "special fire hazard", the defining characteristic of this occupancy's definition.

As such, the distillery occupancy in Building 1 is proposed to be analyzed using a combination of fuel load assessment and semi-quantitative risk indexing to confirm the overall risk level that the craft distillery poses. Once analyzed, appropriate and necessary fire and explosion protection features will be added in order to mitigate the level of risk presented by the distillery to align with that permitted by Group F, Division 2, medium hazard industrial occupancies. As such, the OBC-related design features, and related engineering design, should consider the building as a Group F, Division 2 occupancy, while distillery-specific protective features will be incorporated as outlined above to protect the distillery and adjacent areas. This approach has been applied, accepted, and built in a number of jurisdictions using the same rationale and design approach, further demonstrating its acceptability in principal.

Sincerely,
LRI ENGINEERING

Matthew Hopley, M.Eng., P.Eng [AB]
Branch Manager - Alberta

Reviewed by,
LRI ENGINEERING

Jin Chen, M.Eng., P.Eng.
Associate

APPENDIX D
SANITARY DESIGN

CCO-25-0415 - 5923 Ottawa Street - Sanitary Demands - Phase 1

Project:	5923 Ottawa Street
Project No.:	CCO-25-0415
Designed By:	FV
Checked By:	JB
Date:	May 5, 2025

Site Area	0.48	Gross ha

Commercial Area (Retail)	90	m^2
Industrial - Light (Distillery)	432	m^2
Restaurant	363	m^2

DESIGN PARAMETERS

Institutional/Commercial Peaking Factor	1.5	
Mannings coefficient (n)	0.013	
Infiltration allowance	0.33	L/s/Ha

EXTRANEOUS FLOW ALLOWANCES

Infiltration / Inflow	Flow (L/s)
Dry	0.02
Wet	0.13
Total	0.16

AVERAGE DAILY DEMAND

DEMAND TYPE	AMOUNT	UNITS	POPULATION / AREA	Flow (L/s)
Residential	280	L/c/d		0.0
Industrial - Light**	35,000	L/gross ha/d	0.04	0.02
Industrial - Heavy**	55,000	L/gross ha/d		0
Commercial / Amenity	2,800	L/(1000m^2/d)	90	0.00
Restaurant	125	L/(9.2m^2/d)	363	0.06
Schools	70	L/(Student/d)		0
Trailer Parks no Hook-Ups	340	L/(space/d)		0
Trailer Park with Hook-Ups	800	L/(space/d)		0
Campgrounds	225	L/(campsite/d)		0
Mobile Home Parks	1,000	L/(Space/d)		0
Motels	150	L/(bed-space/d)		0
Hotels	225	L/(bed-space/d)		0
Office	75	L/7.0m^2/d		0
Tourist Commercial	28,000	L/gross ha/d		0
Other Commercial	28,000	L/gross ha/d		0

AVERAGE RESIDENTIAL FLOW	0.00	L/s
PEAK RESIDENTIAL FLOW	0.00	L/s
AVERAGE ICI FLOW	0.08	L/s
TOTAL PEAK ICI FLOW	0.12	L/s

TOTAL SANITARY DEMAND

TOTAL ESTIMATED AVERAGE DRY WEATHER FLOW	0.10	L/s
TOTAL ESTIMATED PEAK DRY WEATHER FLOW	0.14	L/s
TOTAL ESTIMATED PEAK WET WEATHER FLOW	0.27	L/s

CCO-25-0415 - 5923 Ottawa Street - Sanitary Demands - Phase 2

Project:	5923 Ottawa Street
Project No.:	CCO-25-0415
Designed By:	FV
Checked By:	JB
Date:	May 5, 2025

Site Area	0.45	Gross ha
Industrial - Light (Distillery)	926	m^2

DESIGN PARAMETERS

Institutional/Commercial Peaking Factor	1.5	
Mannings coefficient (n)	0.013	
Infiltration allowance	0.33	L/s/Ha

EXTRANEOUS FLOW ALLOWANCES

Infiltration / Inflow	Flow (L/s)
Dry	0.02
Wet	0.13
Total	0.15

AVERAGE DAILY DEMAND

DEMAND TYPE	AMOUNT	UNITS	POPULATION / AREA	Flow (L/s)
Residential	280	L/c/d		0
Industrial - Light**	35,000	L/gross ha/d	0.04	0.02
Industrial - Heavy**	55,000	L/gross ha/d		0
Commercial / Amenity	2,800	L/(1000m²/d)		0
Restaurant	125	L/(9.2m²/d)		0
Schools	70	L/(Student/d)		0
Trailer Parks no Hook-Ups	340	L/(space/d)		0
Trailer Park with Hook-Ups	800	L/(space/d)		0
Campgrounds	225	L/(campsite/d)		0
Mobile Home Parks	1,000	L/(Space/d)		0
Motels	150	L/(bed-space/d)		0
Hotels	225	L/(bed-space/d)		0
Office	75	L/7.0m^2/d		0
Tourist Commercial	28,000	L/gross ha/d		0
Other Commercial	28,000	L/gross ha/d		0

AVERAGE RESIDENTIAL FLOW	0.00	L/s
PEAK RESIDENTIAL FLOW	0.00	L/s
AVERAGE ICI FLOW	0.02	L/s
TOTAL PEAK ICI FLOW	0.03	L/s

TOTAL SANITARY DEMAND

TOTAL ESTIMATED AVERAGE DRY WEATHER FLOW	0.04	L/s
TOTAL ESTIMATED PEAK DRY WEATHER FLOW	0.05	L/s
TOTAL ESTIMATED PEAK WET WEATHER FLOW	0.17	L/s

Rideau Valley Conservation Authority

Application for a Permit to Construct or Demolish

This form is authorized under subsection 8(1.1) of the *Building Code Act, 1992*

For use by Principal Authority	
Application number:	Permit number (if different):
Date received:	Roll number:

RVCA RECEIVED
JUN 09 2025
REFER TO:

SEPTIC FILE # 25-176
OTTAWA

Application submitted to: Ottawa Septic System Office
(Name of municipality, upper-tier municipality, board of health or conservation authority)

A. Project information

Building number, street name	Unit number	Lot/con.
5923 Ottawa street		

Municipality	Postal code	Plan number/other description
Ottawa (Richmond)	K0A 2Z0	

Project value est. $	Area of work (m^2)

B. Purpose of application

☑ New construction ☐ Addition to an existing building ☐ Alteration/repair ☐ Demolition ☐ Conditional Permit

Proposed use of building	Current use of building
Commercial	

Description of proposed work

To construct a new class 4 sewage system, Eljen NSF 245 Denitrification treatment system: Eljen DN450

Sewage System 'A'

C. Applicant

Applicant is: ☐ Owner or ☑ Authorized agent of owner

Last name	First name	Corporation or partnership	
Van de Glind	Hendrik	Paterson Group Inc.	
Street address		**Unit number**	**Lot/con.**
9 Auriga Drive			
Municipality	**Postal code**	**Province**	**E-mail**
Ottawa	K2E 7T9	ON	hvandeglind@patersongroup.ca
Telephone number	**Fax**		**Cell number**
613-226-7381			

D. Owner (if different from applicant)

Last name	First name	Corporation or partnership	
Gulas	Jack	99117756 Canada Inc.	
Street address		**Unit number**	**Lot/con.**
411 Leggett Drive, Suite 710			
Municipality	**Postal code**	**Province**	**E-mail**
Ottawa	K2K 3C9	ON	jack@stratfordfoxrun.com
Telephone number	**Fax**		**Cell number**
613-862-0087			

E. Builder (optional)

Last name	First name	Corporation or partnership (if applicable)	
Street address		Unit number	Lot/con.
Municipality	Postal code	Province	E-mail
Telephone number	Fax	Cell number	

SEPTIC FILE
25-176
OTTAWA

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JUN 09 2025
REFER TO:

F. Tarion Warranty Corporation (Ontario New Home Warranty Program)

i. Is proposed construction for a new home as defined in the *Ontario New Home Warranties Plan Act*? If no, go to section G.	☐ Yes	☑ No
ii. Is registration required under the *Ontario New Home Warranties Plan Act*?	☐ Yes	☑ No

iii. If yes to (ii) provide registration number(s): _____

G. Required Schedules

i) Attach Schedule 1 for each individual who reviews and takes responsibility for design activities.

ii) Attach Schedule 2 where application is to construct on-site, install or repair a sewage system.

H. Completeness and compliance with applicable law

i) This application meets all the requirements of clauses 1.3.1.3 (5) (a) to (d) of Division C of the Building Code (the application is made in the correct form and by the owner or authorized agent, all applicable fields have been completed on the application and required schedules, and all required schedules are submitted).	☑ Yes	☐ No
Payment has been made of all fees that are required, under the applicable by-law, resolution or regulation made under clause 7(1)(c) of the *Building Code Act, 1992*, to be paid when the application is made.	☑ Yes	☐ No
ii) This application is accompanied by the plans and specifications prescribed by the applicable by-law, resolution or regulation made under clause 7(1)(b) of the *Building Code Act, 1992*.	☑ Yes	☐ No
iii) This application is accompanied by the information and documents prescribed by the applicable by-law, resolution or regulation made under clause 7(1)(b) of the *Building Code Act, 1992* which enable the chief building official to determine whether the proposed building, construction or demolition will contravene any applicable law.	☑ Yes	☐ No
iv) The proposed building, construction or demolition will not contravene any applicable law.	☑ Yes	☐ No

I. Declaration of applicant

I Hendrik Van de Glind, L.E.T., C.E.T. - Paterson Group declare that:
(print name)

1. The information contained in this application, attached schedules, attached plans and specifications, and other attached documentation is true to the best of my knowledge.
2. If the owner is a corporation or partnership, I have the authority to bind the corporation or partnership.

June 6, 2025 _____
Date Signature of applicant

Personal information contained in this form and schedules is collected under the authority of subsection 8(1.1) of the *Building Code Act, 1992*, and will be used in the administration and enforcement of the *Building Code Act, 1992*. Questions about the collection of personal information may be addressed to: a) the Chief Building Official of the municipality or upper-tier municipality to which this application is being made, or, b) the inspector having the powers and duties of a chief building official in relation to sewage systems or plumbing for an upper-tier municipality, board of health or conservation authority to whom this application is made, or, c) Director, Building and Development Branch, Ministry of Municipal Affairs and Housing 777 Bay St., 2nd Floor. Toronto, M5G 2E5 (416) 585-6666.

Rideau Valley Conservation Authority

Schedule 1: Designer Information

Use one form for each individual who reviews and takes responsibility for design activities with respect to the project.

A. Project Information

Building number, street name	Unit no.	Lot/con.
5923 Ottawa Street		

Municipality	Postal code	Plan number/ other description
Ottawa (Richmond)	K0A 2Z0	

B. Individual who reviews and takes responsibility for design activities

Name	Firm
Hendrik Van de Glind, L.E.T., C.E.T.	Paterson Group Inc.

Street address	Unit no.	Lot/con.
9 Auriga Drive		

Municipality	Postal code	Province	E-mail
Ottawa	K2E 7T9	ON	hvandeglind@patersongroup.ca

Telephone number	Fax number	Cell number
613-226-7381		

C. Design activities undertaken by individual identified in Section B. [Building Code Table 3.5.2.1. of Division C]

☐ House	☐ HVAC – House	☐ Building Structural
☐ Small Buildings	☐ Building Services	☐ Plumbing – House
☐ Large Buildings	☐ Detection, Lighting and Power	☐ Plumbing – All Buildings
☐ Complex Buildings	☐ Fire Protection	☑ On-site Sewage Systems

Description of designer's work: On-site Sewage System Design

SEPTIC FILE # 25 - 176

OTTAWA

D. Declaration of Designer

I Hendrik Van de Glind, L.E.T., C.E.T. - Paterson Group declare that (choose one as appropriate):

(print name)

I review and take responsibility for the design work on behalf of a firm registered under subsection 3.2.4.of Division C, of the Building Code. I am qualified, and the firm is registered, in the appropriate classes/categories.

Individual BCIN: 111499

Firm BCIN: 29346

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JUN 09 2025

I review and take responsibility for the design and am qualified in the appropriate category as an "other designer" under subsection 3.2.5.of Division C, of the Building Code.

Individual BCIN: _____

Basis for exemption from registration: _____

The design work is exempt from the registration and qualification requirements of the Building Code.

Basis for exemption from registration and qualification: _____

I certify that:

1. The information contained in this schedule is true to the best of my knowledge.
2. I have submitted this application with the knowledge and consent of the firm.

June 6, 2025
Date

Signature of Designer

NOTE:

1. For the purposes of this form, "individual" means the "person" referred to in Clause 3.2.4.7(1) (c).of Division C, Article 3.2.5.1. of Division C, and all other persons who are exempt from qualification under Subsections 3.2.4. and 3.2.5. of Division C.
2. Schedule 1 is not required to be completed by a holder of a license, temporary license, or a certificate of practice, issued by the Ontario Association of Architects. Schedule 1 is also not required to be completed by a holder of a license to practise, a limited license to practise, or a certificate of authorization, issued by the Association of Professional Engineers of Ontario.

Rideau Valley Conservation Authority

Schedule 2: Sewage System Installer Information

A. Project Information			
Building number, street name: 5923 Ottawa Street		Unit number	Lot/con.
Municipality: Ottawa (Richmond)	Postal code: K0A 2Z0	Plan number/ other description	

B. Sewage system installer

Is the installer of the sewage system engaged in the business of constructing on-site, installing, repairing, servicing, cleaning or emptying sewage systems, in accordance with Building Code Article 3.3.1.1, Division C?

☐ Yes (Continue to Section C) ☐ No (Continue to Section E) ☑ Installer unknown at time of application (Continue to Section E)

C. Registered installer information (where answer to B is "Yes")			
Name			BCIN
Street address			Unit number / Lot/con.
Municipality	Postal code	Province	E-mail
Telephone number	Fax		Cell number

D. Qualified supervisor information (where answer to section B is "Yes")	
Name of qualified supervisor(s)	Building Code Identification Number (BCIN)

SEPTIC FILE # 25-176 OTTAWA

E. Declaration of Applicant:

I Hendrik Van de Glind, L.E.T., C.E.T. - Paterson Group declare that:
(print name)

I am the applicant for the permit to construct the sewage system. If the installer is unknown at time of application, I shall submit a new Schedule 2 prior to construction when the installer is known;

OR

I am the holder of the permit to construct the sewage system, and am submitting a new Schedule 2, now that the installer is known.

RVCA RECEIVED JUN 09 2025 REFER TO:

I certify that:

1. The information contained in this schedule is true to the best of my knowledge.
2. If the owner is a corporation or partnership, I have the authority to bind the corporation or partnership.

June 6, 2025 (Date)

Hy Van de Glind (Signature of applicant)

Rideau Valley Conservation Authority

Schedule 4: Proposed Services

Complete Sections ❶ through ❼

Do Not Complete

Permit number:	Revision number:	Date

❶ Engineered
- ☒ Yes
- ☐ No

❷ Water supply
- ☒ Proposed
- ☐ Existing

❸ Use
- ☐ Apartment
- ☐ Dwelling
- ☒ Commercial
- ☐ Industrial

SEPTIC FILE # 25-176 OTTAWA

❹ Type of work proposed
- ☒ New Installation
- ☐ Replacement
- ☐ Alteration

❺ Type of Well
- ☐ Dug/Bored/Sandpoint well
- ☒ Drilled well
- ☐ Municipal
- ☐ Other

❻ Residential Sewage Design Flow Info.

Bedrooms _____

House (floor area) _____ m^2

People _____

Total Fixture Units _____ (Schedule 8)

Residential Flow _____ L/day

❼ Sewage Design Flow Other Occupancies

Design Flow 9367 L/day

Detailed sewage flow calculations:

Refer to PGI Drawings No. PH4924-2(rev.3)

RVCA RECEIVED JUN 09 2025 REFER TO:

❽ Type of System

- ☐ Class 2 – Leaching Pit
- ☐ Class 3 – Cesspool

Treatment Unit Eljen GSF A-42 (DN450)

- ☐ **Class 4 – Trench** (Schedule 9)
  - ☐ Fully raised
  - ☐ Partially raised
  - ☐ In-ground
- ☐ **Class 4 – Filter Media** (Schedule 10)
  - ☐ Fully raised
  - ☐ Partially raised
  - ☐ In-ground
- ☐ **Class 4 – Shallow Buried Trench**
  - ☐ Fully raised
  - ☐ Partially raised
  - ☐ In-ground
- ☒ **Class 4 – BMEC Area Bed** (Schedule 11)
  - ☒ Fully raised
  - ☐ Partially raised
  - ☐ In-ground
- ☐ **Class 4 – "Type A" Dispersal** (Schedule 13)
  - ☐ Fully raised
  - ☐ Partially raised
  - ☐ In-ground
- ☐ **Class 4 – "Type B" Dispersal** (Schedule 14)
  - ☐ Fully raised
  - ☐ Partially raised
  - ☐ In-ground
- ☐ **Class 5 – Holding Tank** (9000L min)
  - ☐ Tank/TreatmentUnit/PumpChamber ONLY
  - ☐ Effluent Filter/Risers ONLY
  - ☐ Other _____

SEPTIC FILE # 25-176 OTTAWA

Rideau Valley Conservation Authority

Schedule 5: Sewage System Details

Do Not Complete

Permit number:	Revision number:	Date

Complete below

Type of System Eljen GSF A-42 Modules (DN 450) (Schedule 4)

Septic/Holding Tank Size: 28,101 (Litres) Make: _____

Septic Tank Effluent Filter Make: OBC Approved Model: (Polylok PL-525 or equivalent)

Treatment Unit - Make & Model: Eljen GSF A-42 Modules (DN450)

Number of Units: 110

Refer to Typical Drawing #: PH4924-1&2(rev.3)

Pump ■ Syphon ☐

Pump(s) required: Yes

Pump Rate: 391 + Charge L/~~15min~~ Hour

Mantle Information

Native or imported=min. 15m in N/A direction(s)

Slope subgrade _____ % slope

_____ direction(s)

Note: Alarm required for all pumping systems

Installed ☐ Inside ☐ Outside TBD By Installer @ time of Installation

Site to be Scarified (If clay) Yes ■ No ☐ Clay Seal Required (If bedrock) Yes ☐ No ☐

☐ **Trench**

Distribution Pipe Length _____ m

Loading Area _____ m^2

Type of Chamber _____

Length of Chamber _____ m

☐ **Dispersal Bed**

■ **BMEC** ☐ **Type A** ☐ **Type B**

Stone N/A m^2

Sand 837.9 m^2

Pipe 134.2 m^2

Linear Loading 11.2 L/m^2

☐ **Shallow Buried Trench**

Pipe Length _____ m^2

Pipe _____

☐ **Filter Media Bed**

Stone _____ m

Extended Base _____ m^2

Pipe _____

Weight of Filter Media _____ Kg

Loading Area _____ m^2

RVCA RECEIVED JUN 09 2025 REFER TO: _____

☐ Tank/Treatment Unit/Pump Chamber Replacement **ONLY**

☐ Effluent Filter & Riser **ONLY**

Construction Notes: _____

SEPTIC FILE # 25-176

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JUN 09 2025
TO: OTTAWA

Rideau Valley Conservation Authority

Schedule 6: Soil and Water Table Information (Minimum depth of test pit: 2 metres)

Do Not Complete

Permit number:	Revision number:	Date

Name of Applicant/Agent: Paterson Group Inc.

Date: June 17, 2024 Time: _____

Applicant/Agent Signiture: _____

Inspector: _____

Date: _____ Time: _____

Inspector Signiture: _____

EG (__) | **Soil Description**

___ m — Refer to PGI DWG

___ m — PH4924-2(rev.3)

___ m

___ m

___ m

___ m

Professional Engineers Ontario

Licensed Engineering Technologist

Name: H. G. VAN DE GLIND
Number: 100647862
Limitations: Inspecting, designing, and assessing residential and commercial sewage systems, grading designs and soil analysis, and overseeing installation and compliance

Association of Professional Engineers of Ontario

T-time 35 **Min/cm**

EG (__) | **Soil Description**

___ m

___ m

___ m

___ m

___ m

___ m

Test pits not available for inspection. Engineer assumes all liability for soil and HGWT info/elev's.

T-time _____ **Min/cm**

EG (__) | **Soil Description**

___ m

___ m

___ m

___ m

___ m

___ m

T-time _____ **Min/cm**

EG (__) | **Soil Description**

___ m

___ m

___ m

___ m

___ m

___ m

T-time _____ **Min/cm**

Legend

BR	Bedrock	**GWT**	Ground water table
HGWT	High ground water table	**M**	metres
EG	Existing grade	**T**	percolation rate

Schedule 7: Layout Section

Do Not Complete

Permit number:	Revision number:	Date

Scale: 1 Block = _____

○ Dug Well
● Drilled Well
▲ Neighbouring Homes
◊ Benchmark
----- Tile Drainage
___ Property Line

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25-176
OTTAWA

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JUN 09 2025
REFER TO: _____

Elevations (metric only)
B.M. 94.86 m
B.M Description Top of spike in hydro pole across from East Property Line of 5935 Ottawa Street
Exact Loaction _____

Min. of 5 elevations in proposed system area (in X pattern)

X_1 _____ X_2 _____
X_3 _____ X_4 _____
X_5 _____ X_6 (toe) _____
X_7 _____ X_8 _____

SEPTIC FILE # 25-176

RVCA RECEIVED JUN 09 2025 REFER TO:

Rideau Valley Conservation Authority

Schedule 8: Fixture unit count

Do Not Complete

Permit number:	Revision number:	Date

Fixtures	# Existing	+	# Proposed	X	unit count	=	Fixture Count
Bathroom							
Bathroom group (toilet, sink and tub or shower) installed in the **same room**		+		X	6	=	0.00
Bathtub with/without overhead shower		+		X	1.5	=	0.00
Shower stall		+		X	1.5	=	0.00
Wash basin (SINK) (1½ inch trap)	6	+		X	1.5	=	9.00
Watercloset (TOILET) tank operated	6	+		X	4	=	24.00
Bidet		+		X	1	=	0.00
Kitchen							
Dishwasher	2	+		X	1	=	2.00
Sink with/without garbage grinder(s), domestic and other small type single, double or 2 single with a common trap	5	+		X	1.5	=	7.50
Other							
Domestic washing machine		+		X	1.5	=	0.00
Combination sink and laundry tray single or double (Installed on 1½ trap)		+		X	1.5	=	0.00
					Total*	=	42.50

***Insert the TOTAL in section 5 of Schedule 4 (0.Reg 151/13 Table 7.4.9.3)**

1. Sump pumps and floor drains are not to be connected to the sewage system. Connection of such fixtures to a sewage system may lead to a hydraulic failure of the said system. The above mentioned fixtures should be discharged separately to an approved Class 2 (leaching pit) sewage system.

2. Where laundry waste is not more than 20% of the total daily design sanitary sewage flow, it may discharge to a sewage system (Part 8, OBC, 8.1.3.1(2)).

Agent/Owner signature

June 6, 2025

Date

ROAD ALLOWANCE BETWEEN LOTS 25 & 26 CONCESSION 3

TIC FILE # 25 - 177 OTTAWA

SEPTIC FILE # 25 - 176 OTTAWA

RECEIVED 9 2025

NOTE:

SEWAGE SYSTEM 'B' HAS BEEN DESIGNED BASED ON *PATERSON GROUP REPORT PH4924-LET.01*

TOTAL DESIGN DAILY SANITARY SEWAGE FLOW (T.D.D.S.S.F.) OR "Q" = 600 L/DAY WHEN BALANCED OVER 7 DAYS.

NATIVE SOILS = GLACIAL TILL TO SILTY CLAY = T = 40 min/cm

MINIMUM NITRATE REDUCTION LEVEL REQUIRED = 50% AS PER PATERSON GROUP REPORT No. *PH4924-LET.01*

ELJEN DN450 SHALL BE USED TO ACHIEVE THE MINIMUM REQUIRED NITRATE REDUCTION.

PRESENTLY PROPOSED ELEVATIONS ARE BASED OFF THE EXISTING TOPOGRAPHIC INFORMATION. THE PROPOSED LOT GRADING AND DRAINAGE ASSOCIATED WITH THE PROPOSED ADDITION MAY AFFECT THESE ELEVATIONS.

NOTE:

SEWAGE SYSTEM 'A' HAS BEEN DESIGNED BASED ON *PATERSON GROUP REPORT PH4924-LET.01*

TOTAL DESIGN DAILY SANITARY SEWAGE FLOW (T.D.D.S.S.F.) OR "Q" = 9,367 L/DAY WHEN BALANCED OVER 7 DAYS.

NATIVE SOILS = GLACIAL TILL TO SILTY CLAY = T = 35 min/cm

MINIMUM NITRATE REDUCTION LEVEL REQUIRED = 50% AS PER PATERSON GROUP REPORT No. *PH4924-LET.01*

ELJEN DN450 SHALL BE USED TO ACHIEVE THE MINIMUM REQUIRED NITRATE REDUCTION.

PRESENTLY PROPOSED ELEVATIONS ARE BASED OFF THE EXISTING TOPOGRAPHIC INFORMATION. THE PROPOSED LOT GRADING AND DRAINAGE ASSOCIATED WITH THE PROPOSED ADDITION MAY AFFECT THESE ELEVATIONS.

PART 1 R.P 4R-13387

PART 4 R.P 4R-7050

N42°37'20"W

N42°32'25"W

100mmØ PVC PIPE TO BE INSTALLED @ 2% (min.) SLOPE AND SHALL BE SLEEVED THROUGH A 150mm Ø PVC SDR28 PIPE AND OVERLAIN BY 75mm T x 600mm W RIGID INSULATION BOARDS UNDER ASPHALT. PATERSON TO REVIEW COVER UPON COMPLETION OF LOT GRADING AND DRAINAGE.

3m L - 100mmØ PVC PIPE WITH ELBOW @ 2% (min.) SLOPE

TYP.
2 OUTLET DISTRIBUTION BOX C/W INLET BAFFLE AND POLYLOK FLOW EQUALIZERS
INLET INV. 94.90m(min.)
OUTLET INV. = 94.80m (min.)

ELJEN SAMPLING PAN
- INSTALL COLLECTION PLATES AS PER MANUFACTURER SPECIFICATIONS

2 RUNS OF 4 ELJEN GSF A-42 MODULES
MODULAR BASE ELEV. @ HEAD = 94.42m
MODULAR BASE ELEV. @ FOOT = 94.40m

TYP.
100mmØ VENT PIPE INSTALLED IN 150mmØ LANDSCAPE VALVE COVER

TYP.
100mmØ SOLID PVC FOOTER PIPE
INV. = 94.58m

SS 'B'

BH 1-25
94.07
(93.63)

NOTE:
SNOW STORAGE SHALL NOT BE LOCATED OVER OR UPGRADIENT OF THE PROPOSED SEWAGE SYSTEM.

NOTE:
SNOW STORAGE SHALL NOT BE LOCATED OVER OR UPGRADIENT OF THE PROPOSED SEWAGE SYSTEM.

TYP.
100mmØ VENT PIPE INSTALLED IN 150mmØ LANDSCAPE VALVE COVER

TYP.
100mmØ SOLID PVC FOOTER PIPE
INV. = 94.78m

100mmØ PERFORATED PVC SEPTIC PIPE INSTALLED @ APPROX. 0.5% ON ELJEN MODULES
HEAD INV. = 94.83m
FOOT INV. = 94.78m

3m L - 100mmØ PVC PIPE WITH ELBOW @ 2% (min.) SLOPE

2 CELLS OF 5 RUNS OF 11 ELJEN GSF A-42 MODULES
MODULAR BASE ELEV. @ HEAD = 94.65m
MODULAR BASE ELEV. @ FOOT = 94.60m

ELJEN SAMPLING PAN
- INSTALL COLLECTION PLATES AS PER MANUFACTURER SPECIFICATIONS

ELJEN SPECIFIED SAND AREA
- 630 mm THICK (TOP OF MODULE TO BASE)
- 37.24m x 22.50m
- FOLLOWED BY 300 mm THICK OF SAND/LIGNOCELLULOSE LAYER
- FOLLOWED BY 50 mm THICK LAYER OF LIMESTONE

SS 'A'

BH 4-24
94.11
(94.01)

NEW 3,600L PRETREATMENT TANK c/w
- TANK SHALL BE CPA APPROVED (OR ENGINEERED) FOR 1.2m (min.) OF COVER.
- TANK SHALL BE REVIEWED FOR BALLASTING REQUIREMENTS.
- POLYLOK PL-525 EFFLUENT FILTER
- POLY RISER & COVER ASSEMBLY (2)
- INLET INV. = 94.27m±
- OUTLET INV. = 94.22m±
- TOP OF TANK = 94.55m±
- FINISHED GRADE = 95.15m

BH 2-24
93.69
(93.69)

PROPOSED INDUSTRIAL BUILDING
(ONE STOREY)

450L (min.) BALANCING TANK c/w TIME OPERATED EFFLUENT 1/2 H.P. SIMPLEX PUMP AND AUDIBLE / VISUAL HIGH WATER ALARM.
- TANK SHALL BE CPA APPROVED (OR ENGINEERED) FOR 1.2m (min.) OF COVER.
- TANK SHALL BE REVIEWED FOR BALLASTING REQUIREMENTS.
- POLY RISER AND COVER ASSEMBLY
- INLET INV. = 94.17m
- FINISHED GRADE = 95.15m

38mmØ PVC SCH 40 PIPE FORCEMAIN
- SHALL BE INSTALLED TO GRAVITY DRAIN TO THE TANK.
- ENTIRE LENGTH OF FORCEMAIN SHALL BE BEDDED OF A MINIMUM OF 150mm OF OPSS GRANULAR A, AND SHALL BE COVERED WITH A MINIMUM OF 300mm OF OPSS GRANULAR A.
- ALL GRANULAR A MATERIAL SHALL BE COMPACTED TO A MINIMUM OF 98% SPMDD.

100mmØ PERFORATED PVC SEPTIC PIPE INSTALLED @ APPROX. 0.5% ON ELJEN MODULES
HEAD INV. = 94.60m
FOOT INV. = 94.58m

ELJEN SPECIFIED SAND AREA
- 630 mm THICK (TOP OF MODULE TO BASE)
- 9.60m x 9.68m
- FOLLOWED BY 300 mm THICK OF SAND/LIGNOCELLULOSE LAYER
- FOLLOWED BY 50 mm THICK LAYER OF LIMESTONE

TYP.
2 x LARGE 4 OUTLET DISTRIBUTION BOX C/W INLET BAFFLE AND POLYLOK FLOW EQUALIZERS
INLET INV. 95.10m(min.)
OUTLET INV. = 95.00m (min.)

EXISTING MONITORING WELL TO BE DECOMMISSIONED

EXISTING DRILLED WELL TO BE DECOMMISSIONED

EXISTING DRILLED WELL

No. 5935 2 Storey Block and Metal Clad Building

2 x 38mmØ PVC SCH 40 PIPE FORCEMAIN
- SHALL BE INSTALLED TO GRAVITY DRAIN TO THE TANK.
- ENTIRE LENGTH OF FORCEMAIN SHALL BE BEDDED OF A MINIMUM OF 150mm OF OPSS GRANULAR A, AND SHALL BE COVERED WITH A MINIMUM OF 300mm OF OPSS GRANULAR A.
- ALL GRANULAR A MATERIAL SHALL BE COMPACTED TO A MINIMUM OF 98% SPMDD.

PROPOSED INDUSTRIAL BUILDING
(ONE STOREY)

PROPOSED FINISHED FLOOR ELEVATION: 95.25

NOTE:
INTERNAL GREASE TRAPS SHALL BE PROVIDED ON KITCHEN FIXTURES.

BH 3-24
93.85
(93.85)

100mmØ PVC PIPE TO BE INSTALLED @ 2% (min.) SLOPE AND SHALL BE SLEEVED THROUGH A 150mm Ø PVC SDR28 PIPE AND OVERLAIN BY 75mm T x 600mm W RIGID INSULATION BOARDS UNDER ASPHALT.
OUTLET ELEV. @ PROPOSED BUILDING = 94.79m±

BH 1-24
94.20
(93.63)

NEW 28,101L PRETREATMENT TANK c/w
- TANK SHALL BE CPA APPROVED (OR ENGINEERED) FOR 1.2m (min.) OF COVER.
- TANK SHALL BE REVIEWED FOR BALLASTING REQUIREMENTS
- POLYLOK PL-525 EFFLUENT FILTER
- POLY RISER & COVER ASSEMBLY (2)
- INLET INV. = 94.50m±
- OUTLET INV. = 94.45m±
- TOP OF TANK = 94.80m±
- FINISHED GRADE = 95.40m

18,500L (min.) BALANCING TANK c/w TIME OPERATED EFFLUENT 1/2 H.P. DUPLEX PUMPS AND AUDIBLE / VISUAL HIGH WATER ALARM.
- TANK SHALL BE CPA APPROVED (OR ENGINEERED) FOR 1.2m (min.) OF COVER.
- TANK SHALL BE REVIEWED FOR BALLASTING REQUIREMENTS.
- PUMPING SYSTEM SHALL BE TIME DOSED TO OPERATE EVERY HOUR AND ALTERNATE BETWEEN CELLS.
- POLY RISER AND COVER ASSEMBLY
- INLET INV. = 94.40m±
- TOP OF TANK (max.) = 94.75m±
- FINISHED GRADE = 95.40m

BH 5-24
93.92
(93.72)

TBM:
TOP OF SPIKE IN HYDRO POLE ACROSS FROM EAST PROPERTY LINE OF 5935 OTTAWA STREET
GEODETIC ELEV. = 94.86m

ASPHALT
CONCRETE
PAVERS
SNOW STORAGE
180.06
110.00
SSIB ± (918)
SIB (WSG)
Ditch
Asphalt
Gravel Shoulder
STREET
OTTAWA
NATIONAL ROAD
Top of Slope
Bottom of Slope
12.77(m)

Professional Engineers Ontario

Licensed Engineering Technologist

Name: H. G. VAN DE GLIND
Number: 100647862
Limitations: Inspecting, designing, and assessing residential and commercial sewage systems, grading designs and soil analysis, and overseeing installation and compliance.

Association of Professional Engineers of Ontario

LEGEND:

- Bore Hole Location
- 70.81 Existing Ground Surface Elev. (m)
- x 72.70 Proposed Ground Surface Elev. (m)
- 72.70 Proposed Subgrade Elev. (m)
- (70.7) Groundwater Elev. (m) - Mar.6/22
- F.F.E. Finished Floor Elev. (m)
- Existing Structure
- Proposed Structure

All Units are in meters unless otherwise specified

BENCHMARK INFORMATION:

TBM: Top of Spike in Hydro Pole Across from East Property Line of 5935 Ottawa Street
Approximate Geodetic Elevation = 94.86m

REFERENCE:

Topographic Information obtained from Plan of Survey of Part of Unit 10 Index Plan D-26 Geographic Township of Goulbourn City of Ottawa, dated July 9, 2024, by egis Surveying Inc.

Baseplan Obtained from Site Plan No. A-001, dated May 2025, by N45 Architecture Inc.

Consultant

PATERSON GROUP
5 AURIGA DRIVE OTTAWA, ON K2E 7S8 TEL (613) 226-7381

DD/MM/YY	Description	Rev.
04/06/25	Issued for Septic Permit	3
14/05/25	Issued with Revised Site Plan	2
03/10/24	Issued with Revised Site Plan	1
20/09/24	Issued for Preliminary Review	0

Client: **STRATFORD FOXRUN**

Project: **PROPOSED WAREHOUSE / RESTAURANT**
5923 OTTAWA STREET
OTTAWA (RICHMOND), ONTARIO

Drawing: **SEWAGE SYSTEM LAYOUT PLAN**
SEWAGE SYSTEM 'A' AND 'B'

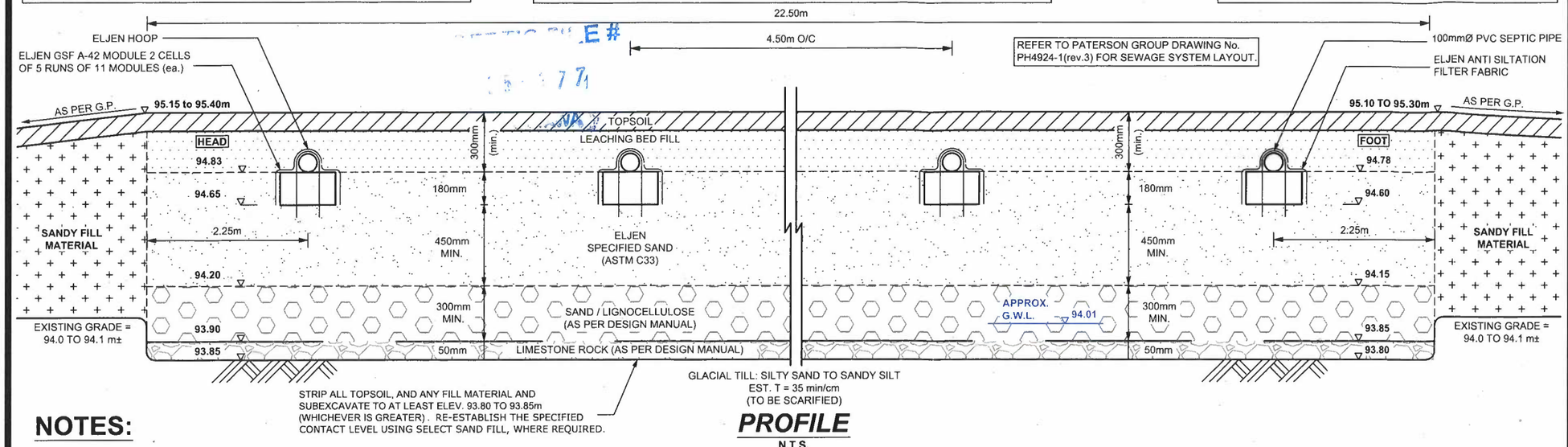
Scale: 1:600 | Drawn by: HV
Date: 06/2025 | Checked by: MK
Drawing no.: **PH4924-1(rev.3)**

p:\autocad drawings\hydrogeology\ph49xx\ph4924 - stratford foxrun - jack gulas - 5923 ottawa street richmond\ph4924-1(rev.3).dwg

COVER MATERIAL TO CONSIST OF LEACHING BED FILL FOLLOWED BY APPROX. 100mm OF SANDY TOPSOIL. LEACHING BED TO BE VEGETATED AS SOON AS POSSIBLE.

SEWAGE SYSTEM DESIGN, SPECIFICATION, DETAILS AND NOTES HAVE BEEN COMPLETED IN ACCORDANCE WITH ELJEN DENITRIFICATION SUPPLEMENTAL DESIGN AND INSTALLATION MANUAL.

FINAL GRADING SHALL BE SUITABLY SHAPED TO DIRECT SURFACE WATER AWAY FROM THE PROPOSED SEWAGE SYSTEM.



PROFILE

N.T.S.

NOTES:

1) ESTIMATE OF DAILY SEWAGE FLOW (Q)

THE PROPOSED SEWAGE SYSTEM HAS BEEN DESIGNED TO SUPPORT A COMMERCIAL TYPE USAGE CONSISTING OF OFFICE, STORE, WAREHOUSE AND RESTAURANT SPACE. THE DAILY DESIGN SEWAGE FLOW RATE IS CALCULATED IN ACCORDANCE WITH O.B.C. TABLE 8.2.1.3.B. **INTERNAL GREASE TRAP SHALL BY PROVIDED FOR KITCHEN FIXTURES.**

OFFICE SPACE:
- (70m² / 9.3) x 75 L/DAY = 565 L/DAY

STORE SPACE:
- 75.25m² x 5 L/DAY = 376.25 L/DAY

WAREHOUSE SPACE:
- 2 LOADING BAY x 150 L/DAY = 300 L/DAY

RESTAURANT/BAR:
65 SEATS x 125 L/DAY = 8,125 L/DAY

TOTAL DESIGN DAILY SANITARY SEWAGE FLOW = 9,367 L/DAY

2) SOIL CONDITIONS

SOILS INFORMATION GATHERED BY PATERSON GROUP INC. ON JUNE 17, 2024. REFER TO PATERSON GROUP REPORT PG7381-1 FOR FULL SOILS BREAKDOWN.

BH 4-24, ELEV. 94.11m

0-0.13 TOPSOIL AND ORGANICS
0.13-3.33 GLACIAL TILL: DENSE BROWN SILTY SAND, TO SANDY SILT WITH GRAVEL, COBBLES AND BOULDERS, SOME TO TRACE CLAY

- G.W.L. @ 0.10m DEPTH (94.01m)

3) PRETREATMENT TANK

- TANK SHALL BE CONNECTED TO BUILDING BY A 150mm Ø PVC PIPE SLEEVED THROUGH A 200mmØ PVC SDR 28 PIPE AND OVERLAIN WITH 50mm T x 600mm W RIGID INSULATION BOARDS (UNDER ROADWAY) AND SHALL BE INSTALLED AT 2.0% (min.) SLOPE TO THE PRETREATMENT TANK.
- MINIMUM WORKING CAPACITY OF PRETREATMENT TANK = (3 x Q) = 3 x 9,367 L/DAY = 28,101 L (min.)
- IT IS RECOMMENDED THAT A NEW 28,101L (min.) TWO-COMPARTMENT SEPTIC TANK BE INSTALLED.
- AN OBC APPROVED EFFLUENT FILTER (I.E. POLYLOK PL-525 EFFLUENT FILTER, OR EQUIVALENT) SHALL BE INSTALLED ON THE OUTLET PIPE IN THE PRETREATMENT TANK.
- THE ACCESS LIDS TO THE TANK OPENINGS SHALL BE EXTENDED TO THE GROUND SURFACE. INSTALL RISERS AND COVERS TO SUIT.
- ACCESS LIDS SHALL INCLUDE SAFETY DEVICES AS PER CSA B66-21.
- TANK SHALL BE CPA APPROVED (OR ENGINEERED) FOR 1.2m (min.) OF COVER MATERIAL.
- TANK SHALL BE REVIEWED FOR BALLASTING REQUIREMENTS.

4) BALANCING TANK

- INSTALL A 18,500L (min.) BALANCING TANK IN SERIES AND DOWNSTREAM FROM THE NEW SEPTIC TANK.
- A TIME OPERATED ALTERNATING DUPLEX PUMPING SYSTEM (I.E. MYERS ME3F, OR SIMILAR) AND A HIGH WATER ALARM SHALL BE INSTALLED IN THE BALANCING TANK.
- THE TIME OPERATIONAL PUMPING SYSTEM SHALL OPERATE EVERY HOUR (I.E. 391 L/DOSE + VOLUME TO CHARGE THE SYSTEM) AND SHALL ALTERNATE BETWEEN EACH CELL.
- A 3mmØ DRAIN HOLE SHALL BE INSTALLED IN THE UNDERSIDE OF THE FORCEMAIN IN THE BALANCING TANK NEAR THE WALL CONNECTION.
- RISERS WITH A COVER SHALL BE INSTALLED OVER THE BALANCING TANK TO PROVIDE ACCESS FROM THE GROUND SURFACE.
- DISCHARGE PIPING FOR PUMP SHALL BE CONFIGURED SUCH THAT THE PUMP IS EASILY SERVICED FROM THE GROUND SURFACE.

5) DISTRIBUTION BOX / FORCEMAIN

- A 38mmØ (NOMINAL) PVC SCH 40 FORCEMAIN (2) SHALL BE USED TO CARRY THE EFFLUENT FROM THE BALANCING TANK TO EACH 3m L x 100mm Ø PVC SEWER PIPE.
- 100mm SEWER PIPE SHALL DRAIN BY GRAVITY TO A 5 OUTLET DISTRIBUTION BOX.
- THE FORCE MAIN SHALL BE INSTALLED TO GRAVITY DRAIN TO THE BALANCING TANK
- THE FORCE MAIN SHALL BE OVERLAIN WITH 50mm T x 600mm C/W RIGID INSULATION.
- THE DISTRIBUTION BOX SHALL BE EQUIPPED WITH AN INLET BAFFLE AND OUTLET PIPES (5).
- EACH PIPING RUN SHALL BE FED BY A 5 OUTLET DISTRIBUTION BOX.
- THE DISTRIBUTION BOX SHALL BE CONNECTED TO THE DISTRIBUTION PIPING RUNS USING 100mmØ SOLID PVC SEWER PIPE @ 2% (min.) SLOPE.

6) LEACHING BED SIZING CRITERIA

- NO. OF MODULES REQUIRED = Q/95 = 9,367/95 = 98.6 MODULES
- USE 2 CELLS OF 5 RUNS OF 11 (110) ELJEN GSF A-42 MODULES EACH
- SAND AREA REQUIRED = QT/400 = 9,367(35)/400 = 819.7m²
- SAND AREA PROVIDED = 37.24m x 22.50m = 837.90m² (min.)

7) LEACHING BED CONSTRUCTION GUIDELINES

- REMOVE ALL EXISTING TOPSOIL, AND ANY FILL WITHIN LIMITS OF THE SAND AREA AND SUBEXCAVATE TO AT LEAST ELEVATION 93.60m TO 93.85m, WHICHEVER IS GREATER. RE-ESTABLISH THE SPECIFIED CONTACT LEVEL USING SELECT SAND FILL, WHERE REQUIRED.
- THE SUBGRADE SURFACE SHALL BE SCARIFIED, **UNDER DRY CONDITIONS.**
- PLACE A 50mm MIN. THICK LAYER OF LIMESTONE ROCK OVER THE SUITABLY PREPARED SUBGRADE.
- LIMESTONE ROCK SHALL NO SMALLER THAN 25mm IN DIAMETER UP TO 50mm IN DIAMETER. THE ROCK SHALL CONTAIN GREATER THAN 15% LIMESTONE AS PER ELJEN DENITRIFICATION SUPPLEMENTAL DESIGN AND INSTALLATION MANUAL.
- PLACE A 300mm THICK LAYER OF SAND / LIGNOCELLULOSE OVER THE LIMESTONE ROCK LAYER.
- SAND / LIGNOCELLULOSE SHALL CONSIST OF WOOD CHIPS OR SAW DUST FROM HARD WOOD TREES THAT HAVE NOT BEEN FURTHER PROCESSED BY CHEMICALS. THE 300mm SAND AND LIGNOCELLULOSE LAYER SHALL BE 50/50 EQUAL MIXTURE OF ASTM C33 SAND AND WOOD CHIPS FROM HARD WOOD TREES. THE MIXTURE MUST NOT EXCEED 60/40 IN FAVOR OF THE MORE WOOD TO SAND.
- PLACE A 450mm MIN. THICK LAYER OF ELJEN SPECIFIED SAND FILL OVER THE LEACHING BED FILL.
- THE ELJEN SPECIFIED SAND FILL SHALL CONSIST OF WASHED SAND MEETING THE REQUIREMENTS OF ASTM C33 "STANDARD SPECIFICATION FOR CONCRETE AGGREGATES" WITH LESS THAN THAN 5% PASSING 0.075mm SIEVE. ELJEN SPECIFIED SAND FILL SHALL BE PRE-APPROVED BY THE CONSULTANT.
- THE MODULES SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
- THE MODULES SHALL BE INSTALLED AT A SLOPE OF 0.3%(min.) to 0.5%(max.), END TO END AND WITH THE WHITE DEMARCATION LINE FACING UP.
- THE MODULAR BASE LEVEL (ELEV. 94.60m AT THE FOOT, TO 94.65m AT THE HEAD) SHALL BE ESTABLISHED WITH ELJEN SPECIFIED SAND FILL, HAVING A MINIMUM THICKNESS OF 450mm BELOW THE MODULES.
- THE ELJEN MODULES SHALL BE FED BY GRAVITY BY A 100mmØ PVC SEWER PIPE @ 2% (min.) SLOPE FROM THE DISTRIBUTION BOX
- THE DISTRIBUTION PIPE SHALL CONSIST OF A 100mmØ PERFORATED PVC PIPE CENTRED OVER THE MODULES. THE PIPE SHALL BE SECURED TO THE TOP OF THE MODULES USING AN ELJEN HOOP (MINIMUM 1 HOOP PER MODULE).
- THE INVERT LEVEL OF THE DISTRIBUTION PIPE SHALL BE SET ON THE MODULES AT ELEVATION 94.78m AT THE FOOT TO 94.83m AT THE HEAD. THE END OF THE PIPE RUNS SHALL BE CONNECTED TO A 100mmØ SOLID PVC FOOTER PIPE
- INSTALL ELJEN SYSTEM SAMPLING DEVICE AS PER MANUFACTURER'S RECOMMENDATIONS.
- THE ELJEN ANTI-SILTATION FILTER FABRIC SHALL BE SPREAD LENGTHWISE OVER THE PERFORATED SEPTIC PIPE AND DOWN THE SIDES OF THE MODULES. ENSURE ENDS OF MODULES ARE ALSO COVERED WITH FABRIC.
- THE MODULES SHALL BE BACKFILLED, WITH ELJEN SPECIFIED SAND FILL TO AT LEAST THE TOP OF THE ELJEN MODULES, FOLLOWED BY 200mm (min.) OF LEACHING BED FILL, FOLLOWED BY 100mm OF SANDY TOPSOIL, WITHIN THE LIMITS OF THE SAND AREA. THE BED AREA SHOULD BE VEGETATED AS SOON AS POSSIBLE.
- LEACHING BED SAND FILL SHALL BE UNIFORM SAND WITH GRADING LIMITS SIMILAR TO 100% PASSING 13.2mm SIEVE, LESS THAN 5% PASSING 0.075mm SIEVE, AND HAVING A PERCOLATION TIME OF 6 TO 8 min/cm. LEACHING BED FILL SHALL BE PRE- APPROVED BY THE CONSULTANT.
- THE SIDES OF THE BED SHOULD BE SLOPED AT 3H:1V OR SHALLOWER.
- VENT SYSTEM SHALL BE INSTALLED ON THE FOOTER PIPE. CONNECT A 100mmØ PVC VENT PIPE TO FOOTER PIPE, EXTENDING TO GROUND SURFACE. VENT PIPE TO BE INSTALLED IN 150mmØ LANDSCAPE VALVE COVER.

8) MINIMUM CLEARANCE DISTANCE FROM DISTRIBUTION PIPE

- 5.6m FROM ANY PROPERTY LINE
- 7.6m FROM ANY STRUCTURE: 5.0m FROM ANY BASEMENTLESS STRUCTURE
- 17.6m FROM ANY DRILLED WELL
- 5.0m FROM ANY TREE (UNLESS OTHERWISE APPROVED)

9) MINIMUM CLEARANCE DISTANCE FROM TANK(S)

- 1.5m FROM ANY STRUCTURE
- 15.0m FROM ANY DRILLED OR DUG WELL
- 3.0m FROM ANY PROPERTY LINE

10) GENERAL

- SNOW STORAGE SHALL NOT BE LOCATED OVER OR UPGRADIENT OF THE PROPOSED SEWAGE SYSTEM.
- THE SEWAGE SYSTEM HAS NOT BEEN DESIGNED TO SUPPORT TRAFFIC LOADING.
- THE BACKFILLING OF THE SEWAGE SYSTEM SHOULD MINIMIZE THE RISK OF OVER COMPACTION WITH THE USE RUBBER TRACKED EQUIPMENT AND BY AVOIDING THE CREATION OF ANY CONSTRUCTION ROUTES OR PATHWAYS OVER THE SYSTEM.
- ANY NEW IRRIGATION / SPRINKLER SYSTEM SHOULD NOT BE USED IN PROXIMITY OF THE PROPOSED SEWAGE SYSTEM.
- ENSURE WALKWAYS AND/OR SHURBBERY ARE NOT PLACED WITHIN PROXIMITY OF THE TANKAGE.
- THE BACKWASH WATERS FROM ANY WATER TREATMENT UNIT, SUCH AS WATER SOFTENER, SHOULD NOT DISCHARGE INTO THE SEWAGE SYSTEM.
- THE SEWAGE SYSTEM HAS NOT BEEN DESIGNED FOR THE USE OF A GARBAGE DISPOSAL.
- SEWAGE SYSTEM INSTALLER SHALL BE QUALIFIED AND REGISTERED UNDER PART 8 OF THE ONTARIO BUILDING CODE AND SHALL BE AN AUTHORIZED EJLEN TREATMENT SYSTEM INSTALLER.
- ALL WORK SHALL BE CARRIED OUT IN ACCORDANCE WITH THE LATEST BY-LAWS, CODES AND REGULATIONS.
- CONTRACTOR SHALL REVIEW DRAWINGS IN DETAIL AND SHALL INFORM THE CONSULTANT OF ANY ERRORS AND/OR OMISSIONS ON DESIGN DRAWINGS IMMEDIATELY.
- CONTRACTOR SHALL BE RESPONSIBLE TO LOCATE AND PROTECT ALL EXISTING UNDERGROUND SERVICES.
- CONTRACTOR SHALL VISIT THE SITE AND REVIEW ALL DOCUMENTATION TO BECOME FAMILIAR WITH THE SITE AND SUBSURFACE SOIL CONDITIONS TO DETERMINE SUITABLE METHODS OF CONSTRUCTION.
- THE MANUFACTURER PROVIDES A LIMITED WARRANTY OF THE SYSTEM COMPONENTS. THE OWNER OF THE SYSTEM MUST SIGN A MAINTENANCE AGREEMENT WITH THE MANUFACTURER'S REPRESENTATIVE. THE HOMEOWNER IS RESPONSIBLE FOR THE ANNUAL FEES ASSOCIATED WITH THE MAINTENANCE.
- THE FIRM OF PATERSON GROUP INC. HAS PROVIDED DESIGN SERVICES ONLY FOR THE SUBJECT SEWAGE SYSTEM. THE DESIGN HAS BEEN CARRIED OUT IN ACCORDANCE WITH THE MANUFACTURER'S GUIDELINES AND OUR INTERPRETATION OF PART 8 OF THE ONTARIO BUILDING CODE.
- INSPECTIONS BY THE CONSULTANT DURING THE INSTALLATION OF THE SYSTEM IS A REQUIREMENT OF SOME REGULATING AUTHORITIES AND IS STRONGLY RECOMMENDED BY THIS FIRM.
- THE PROPERTY LINE / SEPARATION DISTANCES SHOULD BE CONFIRMED PRIOR TO CONSTRUCTION.
- CONSTRUCTION INSPECTIONS DURING THE INSTALLATION OF THE SEWAGE SYSTEM MAY BE REQUIRED BY THE REGULATING AUTHORITY AND ARE STRONGLY RECOMMENDED BY THIS FIRM. IF THIS FIRM IS TO COMPLETE ANY CONSTRUCTION INSPECTION(S), ADDITIONAL FEES MAY BE APPLIED. CONFIRMATION OF PAYMENT WILL BE REQUIRED PRIOR TO THE INSPECTION.
- THE TEST HOLE INFORMATION PROVIDED, IS INTENDED TO BE USED FOR DESIGN PURPOSES ONLY, AND SHOULD NOT BE RELIED UPON FOR CONSTRUCTION PURPOSES. IF DISCREPANCIES ARE FOUND DURING THE CONSTRUCTION PROCESS, IT IS THE CLIENT'S RESPONSIBILITY TO CONTACT THIS FIRM TO MAKE ANY NECESSARY COMMENTS OR REVISIONS. ADDITIONAL REVISIONS ARE NOT CONSIDERED PART OF THE DESIGN WORKS AND WILL BE CONSIDERED AS AN ADDITIONAL COST.

SEPTIC FILE #
25-176
OTTAWA

Professional Engineers Ontario

Licensed Engineering Technologist

Name: H. G. VAN DE GLIND
Number: 100647862
Limitations: Inspecting, designing, and assessing residential and commercial sewage systems, grading designs and soil analysis, and overseeing installation and compliance.

Association of Professional Engineers of Ontario

DD/MM/YY	DESCRIPTION	REV.
04/06/25	Issued for Septic Permit	3
14/05/25	Issued with Revised Site Plan	2
03/10/24	Issued with Revised Site Plan	1
20/09/24	Issued for Preliminary Review	0

Consultant:

PATERSON GROUP
9 AURIGA DRIVE
OTTAWA, ON
K2E 7Z7
TEL (613) 226-7381

Client:

STRATFORD FOXRUN

Project:

PROPOSED WAREHOUSE / RESTAURANT

5923 OTTAWA STREET
OTTAWA (RICHMOND), ONTARIO

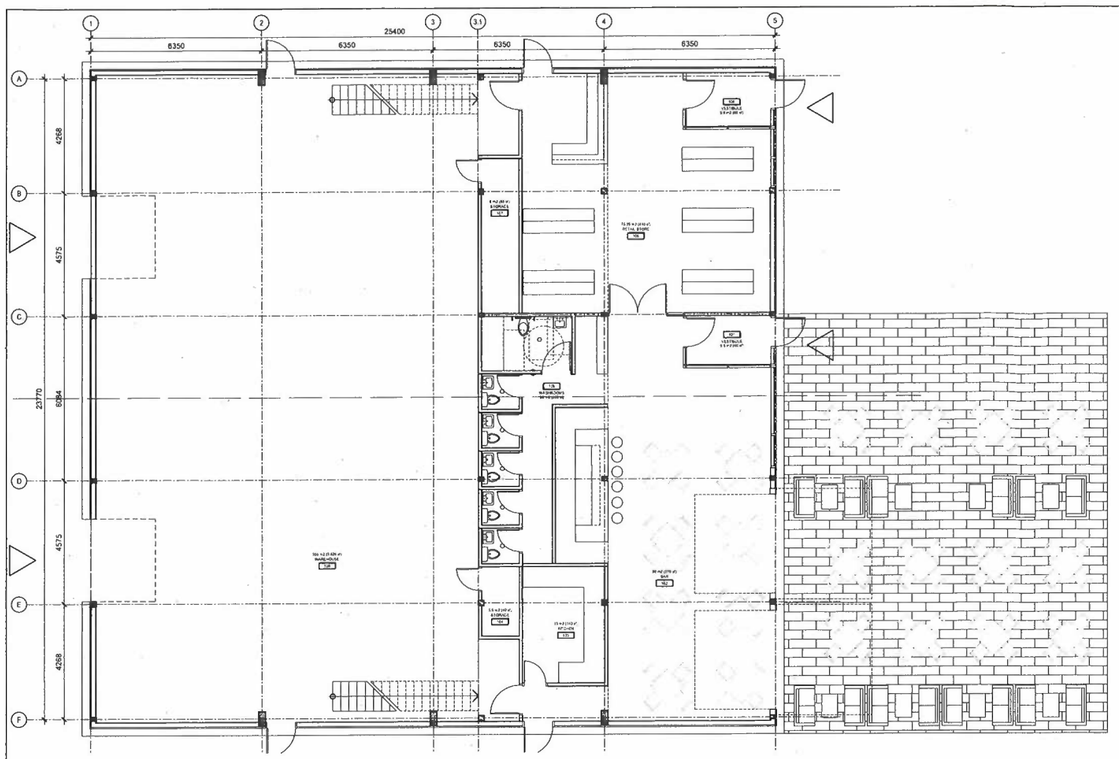
Drawing:

SEWAGE SYSTEM DETAILS AND NOTES SEWAGE SYSTEM 'A'

Scale:	Drawn by:
N.T.S.	HV
Date: 06/2025	Checked by: MK

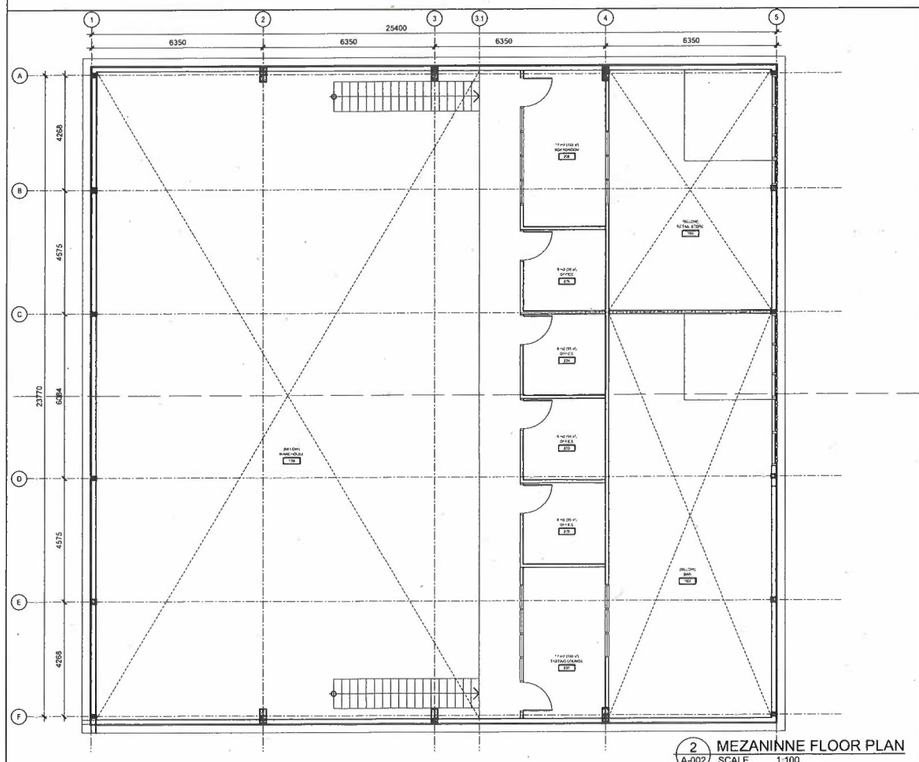
Drawing No.: **PH4924-2(rev.3)**

p:\autocad drawings\hydrogeology\ph49xx\ph4924 - stratford foxrun - jack gulas - 5923 ottawa street richmond\ph4924-2(rev.3).dwg

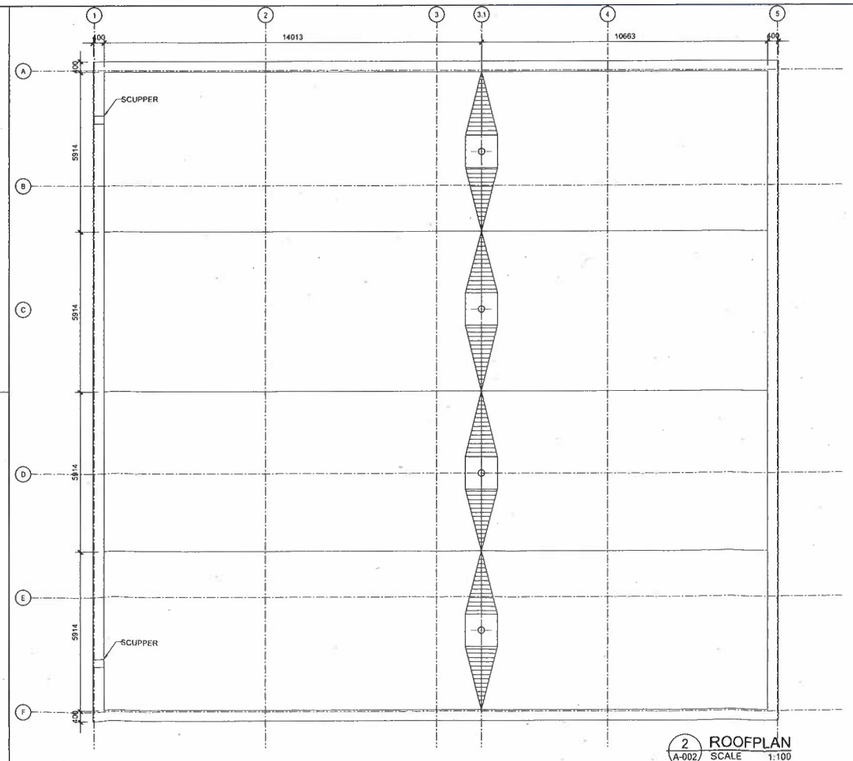


1 GROUND FLOOR PLAN
A-002 SCALE 1:100

BUILDING 1
SEWAGE SYSTEM "A"
25-176



2 MEZANINNE FLOOR PLAN
A-002 SCALE 1:100



2 ROOFPLAN
A-002 SCALE 1:100

no.	revision	date
3	ISSUED FOR SPA	08MAY25
2	ISSUED FOR SITE PLAN CONTROL	19NOV24
1	ISSUED FOR SITE PLAN CONTROL	07OCT24

N45 ARCHITECTURE INC.
71 Bank Street, 7th floor - Ottawa, Ontario, K1P 5N2
tel. 613.224.0095 fax 613.224.9811

project
FOXRUN RICHMOND

5923 OTTAWA STREET
OTTAWA, ON

project north

seal
ONTARIO ASSOCIATION OF ARCHITECTS
VLADIMIR POPOVIC
LICENCE
5918

drawing title
FLOOR PLANS

scale AS NOTED	drawn by NF
date OCT 2022	checked by VP
project number 24-826	drawing number A-002

CONTRACTOR TO VERIFY ALL DIMENSIONS AND NOTIFY THE ARCHITECT OF ANY DISCREPANCIES BEFORE WORK COMMENCES.
DO NOT SCALE DRAWINGS.

revision
-

Rideau Valley Conservation Authority

Permit
Part 8 – Sewage System
Ontario Building Code

Do Not Complete
Permit No 25-176
Revision No
Date
Related Application

A copy of this permit must be posted on the property at all time during construction. OBC, Division C — Part 1, Section 1.3.2.1

This permit verifies that the on-site sewage system was reviewed and approved for construction under the Ontario Building Code Act (Building Code Act, 1992, S.O. 1992, c. 23) and Ontario Building Code (O. Reg. 163/24) as amended.

Inspected & Recommended by: Matt Panciuk
Owner: 99117756 Canada Inc.
Inspection Date & Time:
Weather:
Address: 5923 Ottawa Street - System A
Legal:
In the former Township/City of Goulbourn

Design Flow for Commercial / Institutional / Industrial (as per Table 8.2.1.3.B)

Q: 9,367 L/day

septic tank 28,101(min) L
effluent filter Required
pump rate 391 + Charge L/15 MIN
treatment unit Eljen GSF A42(DN 450)
number of units 110

weigh bills for Eljen Sand	■ yes	❒ no
grain size analysis required	■ yes	❒ no
site to be scarified	■ yes	❒ no
clay seal inspection	❒ yes	■ no
mantle required	❒ yes	■ no
sub-grade inspection	■ yes	❒ no

ELEVATION ☐ In Ground ☐ Partially Raised ☒ Fully Raised

TYPE OF SYSTEM

❒ **Trench**
◯ **Pipe and Stone or** ◯ **Chambers**
type of chamber
loading area m^2
total trench length m
trench configuration

■ **Dispersal Bed**
◉ BMEC ◯ Type A ◯ Type B
stone m^2
sand 837.9 m^2
pipe 2 cells of 5 runs of 11 modules @ 4.5m o/c
weight of sand kg

❒ **Shallow Buried Trench**
pipe length m
orifice spacing m

❒ **Filter Media Bed**
stone m^2
extended base m^2
pipe
weight of filter media kg
loading area m^2

❒ **Class 5 Holding Tank**

❒ **Septic Tank Only**

Manager, Septic System Approvals: Jason Hull Permit Date: August 5, 2025

Comments: 1. Scarification inspection required prior to placement of sand fill.
2. One existing monitoring well and one existing drilled well to be decommissioned on site by a licensed well driller and documentation of the decommissioned wells provided to the RVCA.

■ maintenance/pumping required ■ ESA permit # required ❒ engineer to verify ■ subgrade ❒ squirt height

❒ Class 5 Holding Tank approval only valid for three years from date of issue

Manager, Septic System Approvals: Revision Date:

Comments:

NOTE: For further details, refer to corresponding application.

June 2025

Rideau Valley Conservation Authority

Application for a Permit to Construct or Demolish

This form is authorized under subsection 8(1.1) of the *Building Code Act, 1992*

For use by Principal Authority	
Application number:	Permit number (if different):
Date received:	Roll number:

RVCA RECEIVED JUN 09 2025 REFER TO:

SEPTIC FILE # 25-177 OTTAWA

Application submitted to: Ottawa Septic System Office

(Name of municipality, upper-tier municipality, board of health or conservation authority)

A. Project information

Building number, street name	Unit number	Lot/con.
5923 Ottawa street		

Municipality	Postal code	Plan number/other description
Ottawa (Richmond)	K0A 2Z0	

Project value est. $	Area of work (m^2)

B. Purpose of application

☑ New construction ☐ Addition to an existing building ☐ Alteration/repair ☐ Demolition ☐ Conditional Permit

Proposed use of building	Current use of building
Commercial	

Description of proposed work

To construct a new class 4 sewage system, Eljen NSF 245 Denitrification treatment system: Eljen DN450

Sewage System 'B'

C. Applicant

Applicant is: ☐ Owner or ☑ Authorized agent of owner

Last name	First name	Corporation or partnership	
Van de Glind	Hendrik	Paterson Group Inc.	
Street address		**Unit number**	**Lot/con.**
9 Auriga Drive			
Municipality	**Postal code**	**Province**	**E-mail**
Ottawa	K2E 7T9	ON	hvandeglind@patersongroup.ca
Telephone number	**Fax**		**Cell number**
613-226-7381			

D. Owner (if different from applicant)

Last name	First name	Corporation or partnership	
Gulas	Jack	99117756 Canada Inc.	
Street address		**Unit number**	**Lot/con.**
411 Legget Drive, Suite 710			
Municipality	**Postal code**	**Province**	**E-mail**
Ottawa	K2K 3C9	ON	jack@stratfordfoxrun.com
Telephone number	**Fax**		**Cell number**
613.862.0087			

E. Builder (optional)

Last name	First name	Corporation or partnership (if applicable)	
Street address		Unit number	Lot/con.
Municipality	Postal code	Province	E-mail
Telephone number	Fax	Cell number	

SEPTIC FILE # 25-177 OTTAWA

F. Tarion Warranty Corporation (Ontario New Home Warranty Program)

i. Is proposed construction for a new home as defined in the *Ontario New Home Warranties Plan Act*? If no, go to section G.	☐ Yes	☑ No
ii. Is registration required under the *Ontario New Home Warranties Plan Act*?	☐ Yes	☑ No

iii. If yes to (ii) provide registration number(s): _____

G. Required Schedules

i) Attach Schedule 1 for each individual who reviews and takes responsibility for design activities.

ii) Attach Schedule 2 where application is to construct on-site, install or repair a sewage system.

H. Completeness and compliance with applicable law

i) This application meets all the requirements of clauses 1.3.1.3 (5) (a) to (d) of Division C of the Building Code (the application is made in the correct form and by the owner or authorized agent, all applicable fields have been completed on the application and required schedules, and all required schedules are submitted).	☑ Yes	☐ No
Payment has been made of all fees that are required, under the applicable by-law, resolution or regulation made under clause 7(1)(c) of the *Building Code Act, 1992*, to be paid when the application is made.	☑ Yes	☐ No
ii) This application is accompanied by the plans and specifications prescribed by the applicable by-law, resolution or regulation made under clause 7(1)(b) of the *Building Code Act, 1992.*	☑ Yes	☐ No
iii) This application is accompanied by the information and documents prescribed by the applicable by-law, resolution or regulation made under clause 7(1)(b) of the *Building Code Act, 1992* which enable the chief building official to determine whether the proposed building, construction or demolition will contravene any applicable law.	☑ Yes	☐ No
iv) The proposed building, construction or demolition will not contravene any applicable law.	☑ Yes	☐ No

I. Declaration of applicant

RVCA RECEIVED JUN 0 9 2025 REFER TO:

I Hendrik Van de Glind, L.E.T., C.E.T. - Paterson Group declare that:
(print name)

1. The information contained in this application, attached schedules, attached plans and specifications, and other attached documentation is true to the best of my knowledge.
2. If the owner is a corporation or partnership, I have the authority to bind the corporation or partnership.

June 6, 2025 _____
Date Signature of applicant

Personal information contained in this form and schedules is collected under the authority of subsection 8(1.1) of the *Building Code Act, 1992*, and will be used in the administration and enforcement of the *Building Code Act, 1992*. Questions about the collection of personal information may be addressed to: a) the Chief Building Official of the municipality or upper-tier municipality to which this application is being made, or, b) the inspector having the powers and duties of a chief building official in relation to sewage systems or plumbing for an upper-tier municipality, board of health or conservation authority to whom this application is made, or, c) Director, Building and Development Branch, Ministry of Municipal Affairs and Housing 777 Bay St., 2nd Floor. Toronto, M5G 2E5 (416) 585-6666.

Rideau Valley Conservation Authority

Schedule 1: Designer Information

Use one form for each individual who reviews and takes responsibility for design activities with respect to the project.

A. Project Information

Building number, street name	Unit no.	Lot/con.
5923 Ottawa Street		

Municipality	Postal code	Plan number/ other description
Ottawa (Richmond)	K0A 2Z0	

B. Individual who reviews and takes responsibility for design activities

Name	Firm
Hendrik Van de Glind, L.E.T., C.E.T.	Paterson Group Inc.

Street address	Unit no.	Lot/con.
9 Auriga Drive		

Municipality	Postal code	Province	E-mail
Ottawa	K2E 7T9	ON	hvandeglind@patersongroup.ca

Telephone number	Fax number	Cell number
613-226-7381		

C. Design activities undertaken by individual identified in Section B. [Building Code Table 3.5.2.1. of Division C]

☐ House	☐ HVAC – House	☐ Building Structural
☐ Small Buildings	☐ Building Services	☐ Plumbing – House
☐ Large Buildings	☐ Detection, Lighting and Power	☐ Plumbing – All Buildings
☐ Complex Buildings	☐ Fire Protection	☑ On-site Sewage Systems

Description of designer's work: On-site Sewage System Design

D. Declaration of Designer

I Hendrik Van de Glind, L.E.T., C.E.T. - Paterson Group declare that (choose one as appropriate):

(print name)

I review and take responsibility for the design work on behalf of a firm registered under subsection 3.2.4.of Division C, of the Building Code. I am qualified, and the firm is registered, in the appropriate classes/categories.

Individual BCIN: 111499

Firm BCIN: 29346

SEPTIC FILE # 25-177

OTTAWA

I review and take responsibility for the design and am qualified in the appropriate category as an "other designer" under subsection 3.2.5.of Division C, of the Building Code.

Individual BCIN: _____

Basis for exemption from registration: _____

The design work is exempt from the registration and qualification requirements of the Building Code.

Basis for exemption from registration and qualification: _____

RVCA RECEIVED
JUN 09 2025
REFER TO: _____

I certify that:

1. The information contained in this schedule is true to the best of my knowledge.
2. I have submitted this application with the knowledge and consent of the firm.

June 6, 2025 _____

Date Signature of Designer

NOTE:

1. For the purposes of this form, "individual" means the "person" referred to in Clause 3.2.4.7(1) (c).of Division C, Article 3.2.5.1. of Division C, and all other persons who are exempt from qualification under Subsections 3.2.4. and 3.2.5. of Division C.
2. Schedule 1 is not required to be completed by a holder of a license, temporary license, or a certificate of practice, issued by the Ontario Association of Architects. Schedule 1 is also not required to be completed by a holder of a license to practise, a limited license to practise, or a certificate of authorization, issued by the Association of Professional Engineers of Ontario.

Rideau Valley Conservation Authority

Schedule 2: Sewage System Installer Information

A. Project Information			
Building number, street name 5923 Ottawa Street		Unit number	Lot/con.
Municipality Ottawa (Richmond)	Postal code K0A 2Z0	Plan number/ other description	

B. Sewage system installer

Is the installer of the sewage system engaged in the business of constructing on-site, installing, repairing, servicing, cleaning or emptying sewage systems, in accordance with Building Code Article 3.3.1.1, Division C?

☐ Yes (Continue to Section C) ☐ No (Continue to Section E) ☑ Installer unknown at time of application (Continue to Section E)

C. Registered installer information (where answer to B is "Yes")

Name			BCIN	
Street address			Unit number	Lot/con.
Municipality	Postal code	Province	E-mail	
Telephone number	Fax		Cell number	

D. Qualified supervisor information (where answer to section B is "Yes")

Name of qualified supervisor(s)	Building Code Identification Number (BCIN)

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JUN 09 2025
REFER TO:

E. Declaration of Applicant:

I Hendrik Van de Glind, L.E.T., C.E.T. - Paterson Group declare that:
(print name)

I am the applicant for the permit to construct the sewage system. If the installer is unknown at time of application, I shall submit a new Schedule 2 prior to construction when the installer is known;

OR

I am the holder of the permit to construct the sewage system, and am submitting a new Schedule 2, now that the installer is known.

I certify that:

1. The information contained in this schedule is true to the best of my knowledge.
2. If the owner is a corporation or partnership, I have the authority to bind the corporation or partnership.

SEPTIC FILE # 25-177 OTTAWA

June 6, 2025
Date

Signature of applicant

Rideau Valley Conservation Authority

Schedule 4: Proposed Services
Complete Sections ❶ through ❼

Do Not Complete

Permit number:	Revision number:	Date

❶ Engineered
- ■ Yes
- ☐ No

❷ Water supply
- ■ Proposed
- ☐ Existing

SEPTIC FILE # 25-177

❸ Use
- ☐ Apartment
- ☐ Dwelling
- ■ Commercial
- ☐ Industrial

❹ Type of work proposed
- ■ New Installation
- ☐ Replacement
- ☐ Alteration

❺ Type of Well
- ☐ Dug/Bored/Sandpoint well
- ■ Drilled well
- ☐ Municipal
- ☐ Other

OTTAWA

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JUN 09 2025
REFER TO:

❻ Residential Sewage Design Flow Info.

Bedrooms _____

House (floor area) _____ m^2

People _____

Total Fixture Units _____ (Schedule 8)

Residential Flow _____ L/day

❼ Sewage Design Flow Other Occupancies

Design Flow 600 L/day

Detailed sewage flow calculations:
Refer to PGI Drawings No. PH4924-3(rev.3)

❽ Type of System

- ☐ Class 2 – Leaching Pit
- ☐ Class 3 – Cesspool

Treatment Unit Eljen GSF A-42 (DN450)

- ☐ **Class 4 – Trench** (Schedule 9)
  - ☐ Fully raised
  - ☐ Partially raised
  - ☐ In-ground
- ☐ **Class 4 – Filter Media** (Schedule 10)
  - ☐ Fully raised
  - ☐ Partially raised
  - ☐ In-ground
- ☐ **Class 4 – Shallow Buried Trench**
  - ☐ Fully raised
  - ☐ Partially raised
  - ☐ In-ground
- ■ **Class 4 – BMEC Area Bed** (Schedule 11)
  - ■ Fully raised
  - ☐ Partially raised
  - ☐ In-ground
- ☐ **Class 4 – "Type A" Dispersal** (Schedule 13)
  - ☐ Fully raised
  - ☐ Partially raised
  - ☐ In-ground
- ☐ **Class 4 – "Type B" Dispersal** (Schedule 14)
  - ☐ Fully raised
  - ☐ Partially raised
  - ☐ In-ground
- ☐ **Class 5 – Holding Tank** (9000L min)
- ☐ Tank/TreatmentUnit/PumpChamber ONLY
- ☐ Effluent Filter/Risers ONLY
- ☐ Other _____

SEPTIC FILE #
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OTTAWA

Rideau Valley Conservation Authority

Schedule 5: Sewage System Details

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JUN 09 2025
REFER TO:
Date

Do Not Complete

Permit number:	Revision number:	Date

Complete below

Type of System Eljen GSF A-42 Modules (DN 450) (Schedule 4)

Septic/Holding Tank Size: 3,600 (Litres) Make: _____

Septic Tank Effluent Filter Make: OBC Approved Model: (Polylok PL-250 or equivalent)

Treatment Unit - Make & Model: Eljen GSF A-42 Modules (DN450)

Number of Units: 8

Refer to Typical Drawing #: PH4924-1&3(rev.3)

Pump ■ Syphon ☐

Pump(s) required: Yes

Pump Rate: 25 + Charge L/~~15min~~ Hour

Mantle Information

Native or imported=min. 15m in N/A direction(s)

Slope subgrade _____ % slope

_____ direction(s)

Note: Alarm required for all pumping systems

Installed ☐ Inside ☐ Outside TBD By Installer @ time of Installation

Site to be Scarified (If clay) Yes ■ No ☐ Clay Seal Required (If bedrock) Yes ☐ No ☐

☐ **Trench**
- Distribution Pipe Length _____ m
- Loading Area _____ m^2
- Type of Chamber _____
- Length of Chamber _____ m

☐ **Dispersal Bed**

■ **BMEC** ☐ **Type A** ☐ **Type B**
- Stone N/A _____ m^2
- Sand 92.9 _____ m^2
- Pipe 9.76 _____ m^2
- Linear Loading 6.5 _____ L/m^2

☐ **Shallow Buried Trench**
- Pipe Length _____ m^2
- Pipe _____

☐ **Filter Media Bed**
- Stone _____ m
- Extended Base _____ m^2
- Pipe _____
- Weight of Filter Media _____ Kg
- Loading Area _____ m^2

☐ Tank/Treatment Unit/Pump Chamber Replacement **ONLY**

☐ Effluent Filter & Riser **ONLY**

Construction Notes: _____

SEPTIC FILE #
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JUN 0 9 2025
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Rideau Valley Conservation Authority

Schedule 6: Soil and Water Table Information (Minimum depth of test pit: 2 metres)

Do Not Complete

Permit number:	Revision number:	Date

Name of Applicant/Agent: Paterson Group Inc.
Date: April 17, 2025 Time:
Applicant/Agent Signiture:

Inspector:
Date: Time:
Inspector Signiture:

EG (__) **Soil Description**

__ m
__ m
__ m
__ m
__ m
__ m

Refer to PGI DWG
PH4924-2(rev.3)

Professional Engineers Ontario
Licensed Engineering Technologist
Name: H. G. VAN DE GLIND
Number: 100647862
Limitations: Inspecting, designing, and assessing residential and commercial sewage systems, grading designs and soil analysis, and overseeing installation and compliance
Association of Professional Engineers of Ontario

T-time 40 Min/cm

EG (__) **Soil Description**

__ m
__ m
__ m
__ m
__ m
__ m

Test pits not available for inspection. Engineer assumes all liability for soil and HGWT info/elev's.

T-time _____ Min/cm

EG (__) **Soil Description**

__ m
__ m
__ m
__ m
__ m
__ m

T-time _____ Min/cm

EG (__) **Soil Description**

__ m
__ m
__ m
__ m
__ m
__ m

T-time _____ Min/cm

Legend

BR	Bedrock	**GWT**	Ground water table
HGWT	High ground water table	**M**	metres
EG	Existing grade	**T**	percolation rate

Rideau Valley Conservation Authority

Schedule 7: Layout Section

Do Not Complete		
Permit number:	Revision number:	Date

Scale: 1 Block = _____

O Dug Well
● Drilled Well
▲ Neighbouring Homes
◊ Benchmark
----- Tile Drainage
___ Property Line

SEPTIC FILE # 25-177 OTTAWA

RVCA RECEIVED
JUL 09 2025
REFER TO: _____

Elevations (metric only)
B.M. 94.86 m
B.M Description Top of spike in hydro pole across from East Property Line of 5935 Ottawa Street
Exact Loaction _____

Min. of 5 elevations in proposed system area (in X pattern)

X_1 _____ X_2 _____
X_3 _____ X_4 _____
X_5 _____ X_6 **(toe)** _____
X_7 _____ X_8 _____

SEPTIC FILE #
25-177
OTTAWA

Rideau Valley Conservation Authority

Schedule 8: Fixture unit count

Do Not Complete

Permit number:	Revision number:	Date

Fixtures	# Existing	+	# Proposed	X	unit count	=	Fixture Count
Bathroom							
Bathroom group (toilet, sink and tub or shower) installed in the **same room**		+		X	6	=	0.00
Bathtub with/without overhead shower		+		X	1.5	=	0.00
Shower stall		+		X	1.5	=	0.00
Wash basin (SINK) (1½ inch trap)	3	+		X	1.5	=	4.50
Watercloset (TOILET) tank operated	3	+		X	4	=	12.00
Bidet		+		X	1	=	0.00
Kitchen							
Dishwasher	1	+		X	1	=	1.00
Sink with/without garbage grinder(s), domestic and other small type single, double or 2 single with a common trap	1	+		X	1.5	=	1.50
Other							
Domestic washing machine		+		X	1.5	=	0.00
Combination sink and laundry tray single or double (Installed on 1½ trap)		+		X	1.5	=	0.00
					Total*	=	19.00

***Insert the TOTAL in section 5 of Schedule 4 (0.Reg 151/13 Table 7.4.9.3)**

1. Sump pumps and floor drains are not to be connected to the sewage system. Connection of such fixtures to a sewage system may lead to a hydraulic failure of the said system. The above mentioned fixtures should be discharged separately to an approved Class 2 (leaching pit) sewage system.

2. Where laundry waste is not more than 20% of the total daily design sanitary sewage flow, it may discharge to a sewage system (Part 8, OBC, 8.1.3.1(2)).

Agent/Owner signature

June 6, 2025

Date

ROAD ALLOWANCE BETWEEN LOTS 25 & 26 CONCESSION 3

STREET

OTTAWA

PART 1
R.P 4R-13387

PART 4
R.P 4R-7050

N42°37'20"W

N42°32'25"W

N47°26'50"E

180.06

100mmØ PVC PIPE TO BE INSTALLED @ 2% (min.) SLOPE AND SHALL BE SLEEVED THROUGH A 150mm Ø PVC SDR28 PIPE AND OVERLAIN BY 75mm T x 600mm W RIGID INSULATION BOARDS UNDER ASPHALT. PATERSON TO REVIEW COVER UPON COMPLETION OF LOT GRADING AND DRAINAGE.

NEW 3,600L PRETREATMENT TANK c/w
- TANK SHALL BE CPA APPROVED (OR ENGINEERED) FOR 1.2m (min.) OF COVER.
- TANK SHALL BE REVIEWED FOR BALLASTING REQUIREMENTS.
- POLYLOK PL-525 EFFLUENT FILTER
- POLY RISER & COVER ASSEMBLY (2)
- INLET INV. = 94.27m±
- OUTLET INV. = 94.22m±
- TOP OF TANK = 94.55m±
- FINISHED GRADE = 95.15m

3m L - 100mmØ PVC PIPE WITH ELBOW @ 2% (min.) SLOPE

TYP.
2 OUTLET DISTRIBUTION BOX C/W INLET BAFFLE AND POLYLOK FLOW EQUALIZERS
INLET INV. 94.90m(min.)
OUTLET INV. = 94.80m (min.)

SS 'B'

ELJEN SAMPLING PAN
- INSTALL COLLECTION PLATES AS PER MANUFACTURER SPECIFICATIONS

2 RUNS OF 4 ELJEN GSF A-42 MODULES
MODULAR BASE ELEV. @ HEAD = 94.42m
MODULAR BASE ELEV. @ FOOT = 94.40m

TYP.
100mmØ VENT PIPE INSTALLED IN 150mmØ LANDSCAPE VALVE COVER

TYP.
100mmØ SOLID PVC FOOTER PIPE
INV. = 94.58m

BH 1-25
94.07
(93.63)

BH 2-24
93.69
(93.69)

PROPOSED INDUSTRIAL BUILDING
(ONE STOREY)

450L (min.) BALANCING TANK c/w TIME OPERATED EFFLUENT 1/2 H.P. SIMPLEX PUMP AND AUDIBLE / VISUAL HIGH WATER ALARM.
- TANK SHALL BE CPA APPROVED (OR ENGINEERED) FOR 1.2m (min.) OF COVER.
- TANK SHALL BE REVIEWED FOR BALLASTING REQUIREMENTS.
- POLY RISER AND COVER ASSEMBLY
- INLET INV. = 94.17m
- FINISHED GRADE = 95.15m

38mmØ PVC SCH 40 PIPE FORCEMAIN
- SHALL BE INSTALLED TO GRAVITY DRAIN TO THE TANK.
- ENTIRE LENGTH OF FORCEMAIN SHALL BE BEDDED OF A MINIMUM OF 150mm OF OPSS GRANULAR A, AND SHALL BE COVERED WITH A MINIMUM OF 300mm OF OPSS GRANULAR A.
- ALL GRANULAR A MATERIAL SHALL BE COMPACTED TO A MINIMUM OF 98% SPMDD.

100mmØ PERFORATED PVC SEPTIC PIPE INSTALLED @ APPROX. 0.5% ON ELJEN MODULES
HEAD INV. = 94.60m
FOOT INV. = 94.58m

ELJEN SPECIFIED SAND AREA
- 630 mm THICK (TOP OF MODULE TO BASE)
- 9.60m x 9.68m
- FOLLOWED BY 300 mm THICK OF SAND/LIGNOCELLULOSE LAYER
- FOLLOWED BY 50 mm THICK LAYER OF LIMESTONE

NOTE:
SNOW STORAGE SHALL NOT BE LOCATED OVER OR UPGRADIENT OF THE PROPOSED SEWAGE SYSTEM.

SNOW STORAGE

ASPHALT

PAVERS

CONCRETE

BH 5-24
93.92
(93.72)

NOTE:
SEWAGE SYSTEM 'B' HAS BEEN DESIGNED BASED ON *PATERSON GROUP REPORT PH4924-LET.01*

TOTAL DESIGN DAILY SANITARY SEWAGE FLOW (T.D.D.S.S.F.) OR "Q" = 600 L/DAY WHEN BALANCED OVER 7 DAYS.

NATIVE SOILS = GLACIAL TILL TO SILTY CLAY = T = 40 min/cm

MINIMUM NITRATE REDUCTION LEVEL REQUIRED = 50% AS PER PATERSON GROUP REPORT No. *PH4924-LET.01*

ELJEN DN450 SHALL BE USED TO ACHIEVE THE MINIMUM REQUIRED NITRATE REDUCTION.

PRESENTLY PROPOSED ELEVATIONS ARE BASED OFF THE EXISTING TOPOGRAPHIC INFORMATION. THE PROPOSED LOT GRADING AND DRAINAGE ASSOCIATED WITH THE PROPOSED ADDITION MAY AFFECT THESE ELEVATIONS.

NOTE:
SEWAGE SYSTEM 'A' HAS BEEN DESIGNED BASED ON *PATERSON GROUP REPORT PH4924-LET.01*

TOTAL DESIGN DAILY SANITARY SEWAGE FLOW (T.D.D.S.S.F.) OR "Q" = 9,367 L/DAY WHEN BALANCED OVER 7 DAYS.

NATIVE SOILS = GLACIAL TILL TO SILTY CLAY = T = 35 min/cm

MINIMUM NITRATE REDUCTION LEVEL REQUIRED = 50% AS PER PATERSON GROUP REPORT No. *PH4924-LET.01*

ELJEN DN450 SHALL BE USED TO ACHIEVE THE MINIMUM REQUIRED NITRATE REDUCTION.

PRESENTLY PROPOSED ELEVATIONS ARE BASED OFF THE EXISTING TOPOGRAPHIC INFORMATION. THE PROPOSED LOT GRADING AND DRAINAGE ASSOCIATED WITH THE PROPOSED ADDITION MAY AFFECT THESE ELEVATIONS.

NOTE:
SNOW STORAGE SHALL NOT BE LOCATED OVER OR UPGRADIENT OF THE PROPOSED SEWAGE SYSTEM.

SNOW STORAGE

TYP.
100mmØ SOLID PVC FOOTER PIPE
INV. = 94.78m

TYP.
100mmØ VENT PIPE INSTALLED IN 150mmØ LANDSCAPE VALVE COVER

TYP.
2 x LARGE 4 OUTLET DISTRIBUTION BOX C/W INLET BAFFLE AND POLYLOK FLOW EQUALIZERS
INLET INV. 95.10m(min.)
OUTLET INV. = 95.00m (min.)

100mmØ PERFORATED PVC SEPTIC PIPE INSTALLED @ APPROX. 0.5% ON ELJEN MODULES
HEAD INV. = 94.83m
FOOT INV. = 94.78m

SS 'A'

BH 4-24
94.11
(94.01)

EXISTING MONITORING WELL TO BE DECOMMISSIONED

2 x 38mmØ PVC SCH 40 PIPE FORCEMAIN
- SHALL BE INSTALLED TO GRAVITY DRAIN TO THE TANK.
- ENTIRE LENGTH OF FORCEMAIN SHALL BE BEDDED OF A MINIMUM OF 150mm OF OPSS GRANULAR A, AND SHALL BE COVERED WITH A MINIMUM OF 300mm OF OPSS GRANULAR A.
- ALL GRANULAR A MATERIAL SHALL BE COMPACTED TO A MINIMUM OF 98% SPMDD.

PROPOSED INDUSTRIAL BUILDING
(ONE STOREY)

PROPOSED FINISHED FLOOR ELEVATION: 95.25

NOTE:
INTERNAL GREASE TRAPS SHALL BE PROVIDED ON KITCHEN FIXTURES.

3m L - 100mmØ PVC PIPE WITH ELBOW @ 2% (min.) SLOPE

2 CELLS OF 5 RUNS OF 11 ELJEN GSF A-42 MODULES
MODULAR BASE ELEV. @ HEAD = 94.65m
MODULAR BASE ELEV. @ FOOT = 94.60m

ELJEN SAMPLING PAN
- INSTALL COLLECTION PLATES AS PER MANUFACTURER SPECIFICATIONS

ELJEN SPECIFIED SAND AREA
- 630 mm THICK (TOP OF MODULE TO BASE)
- 37.24m x 22.50m
- FOLLOWED BY 300 mm THICK OF SAND/LIGNOCELLULOSE LAYER
- FOLLOWED BY 50 mm THICK LAYER OF LIMESTONE

BH 3-24
93.85
(93.85)

100mmØ PVC PIPE TO BE INSTALLED @ 2% (min.) SLOPE AND SHALL BE SLEEVED THROUGH A 150mm Ø PVC SDR28 PIPE AND OVERLAIN BY 75mm T x 600mm W RIGID INSULATION BOARDS UNDER ASPHALT.
OUTLET ELEV. @ PROPOSED BUILDING = 94.79m±

BH 1-24
94.20
(93.63)

EXISTING DRILLED WELL TO BE DECOMMISSIONED

EXISTING DRILLED WELL

No. 5935
2 Storey
Block and Metal Clad Building

NEW 28,101L PRETREATMENT TANK c/w
- TANK SHALL BE CPA APPROVED (OR ENGINEERED) FOR 1.2m (min.) OF COVER.
- TANK SHALL BE REVIEWED FOR BALLASTING REQUIREMENTS
- POLYLOK PL-525 EFFLUENT FILTER
- POLY RISER & COVER ASSEMBLY (2)
- INLET INV. = 94.50m±
- OUTLET INV. = 94.45m±
- TOP OF TANK = 94.80m±
- FINISHED GRADE = 95.40m

18,500L (min.) BALANCING TANK c/w TIME OPERATED EFFLUENT 1/2 H.P. DUPLEX PUMPS AND AUDIBLE / VISUAL HIGH WATER ALARM.
- TANK SHALL BE CPA APPROVED (OR ENGINEERED) FOR 1.2m (min.) OF COVER.
- TANK SHALL BE REVIEWED FOR BALLASTING REQUIREMENTS.
- PUMPING SYSTEM SHALL BE TIME DOSED TO OPERATE EVERY HOUR AND ALTERNATE BETWEEN CELLS.
- POLY RISER AND COVER ASSEMBLY
- INLET INV. = 94.40m±
- TOP OF TANK (max.) = 94.75m±
- FINISHED GRADE = 95.40m

TBM:
TOP OF SPIKE IN HYDRO POLE ACROSS FROM EAST PROPERTY LINE OF 5935 OTTAWA STREET
GEODETIC ELEV. = 94.86m

SSIB (918)
SIB (WSG)
Ditch
Gravel Shoulder
Asphalt
Ditch

Professional Engineers Ontario

Licensed Engineering Technologist
Name: H. G. VAN DE GLIND
Number: 100647862
Limitations: Inspecting, designing, and assessing residential and commercial sewage systems, grading designs and soil analysis, and overseeing installation and compliance.
Association of Professional Engineers of Ontario

LEGEND:

⊕	Bore Hole Location
x 70.81	Existing Ground Surface Elev. (m)
x 72.70	Proposed Ground Surface Elev. (m)
72.70	Proposed Subgrade Elev. (m)
(70.7)	Groundwater Elev. (m) - Mar.6/22
F.F.E.	Finished Floor Elev. (m)
	Existing Structure
	Proposed Structure

All Units are in meters unless otherwise specified

BENCHMARK INFORMATION:

TBM: Top of Spike in Hydro Pole Across from East Property Line of 5935 Ottawa Street
Approximate Geodetic Elevation = 94.86m

REFERENCE:

Topographic Information obtained from Plan of Survey of Part of Unit 10 Index Plan D-26 Geographic Township of Goulbourn City of Ottawa, dated July 9, 2024, by egis Surveying Inc.

Baseplan Obtained from Site Plan No. A-001, dated May 2025, by N45 Architecture Inc.

Consultant

PATERSON GROUP
9 AURIGA DRIVE
OTTAWA, ON
K2E 7S8
TEL (613) 226-7381

DD/MM/YY	Description	Rev.
04/06/25	Issued for Septic Permit	3
14/05/25	Issued with Revised Site Plan	2
03/10/24	Issued with Revised Site Plan	1
20/09/24	Issued for Preliminary Review	0

Client: **STRATFORD FOXRUN**

Project: **PROPOSED WAREHOUSE / RESTAURANT**
5923 OTTAWA STREET
OTTAWA (RICHMOND), ONTARIO

Drawing: **SEWAGE SYSTEM LAYOUT PLAN**
SEWAGE SYSTEM 'A' AND 'B'

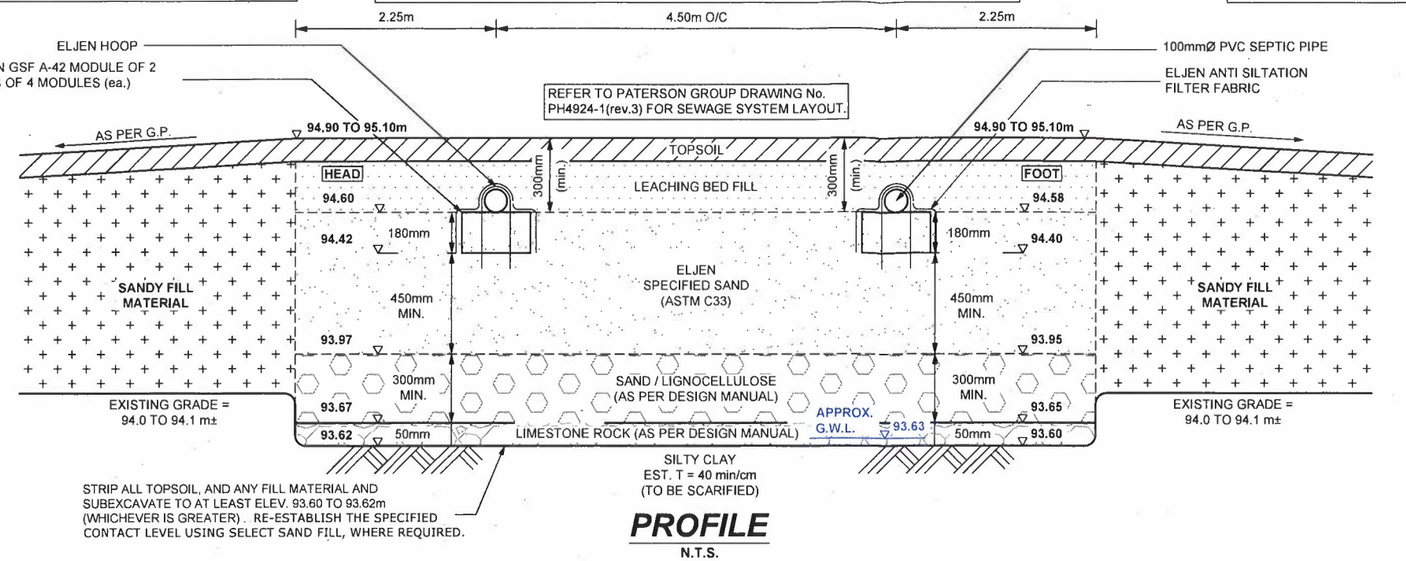
Scale: 1:600
Drawn by: HV
Date: 06/2025
Checked by: MK
Drawing no.: **PH4924-1(rev.3)**

p:\autocad drawings\hydrogeology\ph49xx\ph4924 - stratford foxrun - jack gulas - 5923 ottawa street richmond\ph4924-1(rev.3).dwg

COVER MATERIAL TO CONSIST OF LEACHING BED FILL FOLLOWED BY APPROX. 100mm OF SANDY TOPSOIL. LEACHING BED TO BE VEGETATED AS SOON AS POSSIBLE.

SEWAGE SYSTEM DESIGN, SPECIFICATION, DETAILS AND NOTES HAVE BEEN COMPLETED IN ACCORDANCE WITH ELJEN DENITRIFICATION SUPPLEMENTAL DESIGN AND INSTALLATION MANUAL.

FINAL GRADING SHALL BE SUITABLY SHAPED TO DIRECT SURFACE WATER AWAY FROM THE PROPOSED SEWAGE SYSTEM.



PROFILE
N.T.S.

NOTES:

1) ESTIMATE OF DAILY SEWAGE FLOW (Q)

THE PROPOSED SEWAGE SYSTEM HAS BEEN DESIGNED TO SUPPORT A COMMERCIAL TYPE USAGE CONSISTING OF OFFICE, AND WAREHOUSE SPACE. THE DAILY DESIGN SEWAGE FLOW RATE IS CALCULATED IN ACCORDANCE WITH O.B.C. TABLE 8.2.1.3.B.

OFFICE SPACE:
- 4 EMPLOYEES x 75 L/DAY = 300 L/DAY

WAREHOUSE SPACE:
- 2 LOADING BAY x 150 L/DAY = 300 L/DAY

TOTAL DESIGN DAILY SANITARY SEWAGE FLOW = 600 L/DAY

2) SOIL CONDITIONS

SOILS INFORMATION GATHERED BY PATERSON GROUP INC. ON APRIL 17, 2025. REFER TO PATERSON GROUP REPORT PG73781-1Rev.2 FOR FULL SOILS BREAKDOWN.

BH 1-25, ELEV. 94.07m

0-0.08	TOPSOIL AND ORGANICS
0.08-1.45	BROWN SILTY CLAY
1.45-6.60	GLACIAL TILL: BROWN SILTY SAND WITH GRAVEL, COBBLES BOULDERS AND CLAY (GREY @ 3.73 m DEPTH)

- G.W.L: @ 0.05m DEPTH (93.64m)

1) PRETREATMENT TANK

- TANK SHALL BE CONNECTED TO BUILDING BY A 150mm Ø PVC PIPE SLEEVED THROUGH A 200mmØ PVC SDR 28 PIPE AND OVERLAIN WITH 50mm T x 600mm W RIGID INSULATION BOARDS (UNDER ROADWAY) AND SHALL BE INSTALLED AT 2.0% (min.) SLOPE TO THE PETREATMENT TANK.
- MINIMUM WORKING CAPACITY OF PRETREATMENT TANK = (3 x Q) OR 3,600 L (min.) = 3,600 L (min.)
- IT IS RECOMMENDED THAT A NEW 3,600L (min.) TWO-COMPARTMENT SEPTIC TANK BE INSTALLED.
- AN OBC APPROVED EFFLUENT FILTER (I.E. POLYLOK PL-525 EFFLUENT FILTER, OR EQUIVALENT) SHALL BE INSTALLED ON THE OUTLET PIPE IN THE PRETREATMENT TANK.
- THE ACCESS LIDS TO THE TANK OPENINGS SHALL BE EXTENDED TO THE GROUND SURFACE. INSTALL RISERS AND COVERS TO SUIT.
- ACCESS LIDS SHALL INCLUDE SAFETY DEVICES AS PER CSA B66-21.
- TANK SHALL BE CPA APPROVED (OR ENGINEERED) FOR 1.2m (min.) OF COVER MATERIAL.
- TANK SHALL BE REVIEWED FOR BALLASTING REQUIREMENTS.

4) BALANCING TANK

- INSTALL A 450L (min.) BALANCING TANK IN SERIES AND DOWNSTREAM FROM THE NEW SEPTIC TANK.
- A TIME OPERATED ALTERNATING DUPLEX PUMPING SYSTEM (I.E. MYERS ME3F, OR SIMILAR) AND A HIGH WATER ALARM SHALL BE INSTALLED IN THE BALANCING TANK.
- THE TIME OPERATIONAL PUMPING SYSTEM SHALL OPERATE EVERY HOUR (I.E. 25 L/DOSE + VOLUME TO CHARGE THE SYSTEM) AND SHALL.
  ALTERNATE BETWEEN EACH CELL.
- A 3mmØ DRAIN HOLE SHALL BE INSTALLED IN THE UNDERSIDE OF THE FORCEMAIN IN THE BALANCING TANK NEAR THE WALL CONNECTION.
- RISERS WITH A COVER SHALL BE INSTALLED OVER THE BALANCING TANK TO PROVIDE ACCESS FROM THE GROUND SURFACE.
- DISCHARGE PIPING FOR PUMP SHALL BE CONFIGURED SUCH THAT THE PUMP IS EASILY SERVICED FROM THE GROUND SURFACE.

5) DISTRIBUTION BOX / FORCEMAIN

- A 38mmØ (NOMINAL) PVC SCH 40 FORCEMAIN (2) SHALL BE USED TO CARRY THE EFFLUENT FROM THE BALANCING TANK TO EACH 3m L x 100mm Ø PVC SEWER PIPE.
- 100mm SEWER PIPE SHALL DRAIN BY GRAVITY TO A 2 OUTLET DISTRIBUTION BOX.
- THE FORCE MAIN SHALL BE INSTALLED TO GRAVITY DRAIN TO THE BALANCING TANK
- THE FORCE MAIN SHALL BE OVERLAIN WITH 50mm T x 600mm C/W RIGID INSULATION.
- THE DISTRIBUTION BOX SHALL BE EQUIPPED WITH AN INLET BAFFLE AND OUTLET PIPES (2).
- EACH PIPING RUN SHALL BE FED BY A 2 OUTLET DISTRIBUTION BOX.
- THE DISTRIBUTION BOX SHALL BE CONNECTED TO THE DISTRIBUTION PIPING RUNS USING 100mmØ SOLID PVC SEWER PIPE @ 2% (min.) SLOPE.

6) LEACHING BED SIZING CRITERIA

- NO. OF MODULES REQUIRED = Q/95 = 600/95 = 6.3 MODULES
- USE 2 RUNS OF 4 (8) ELJEN GSF A-42 MODULES EACH
- SAND AREA REQUIRED = QT/400 = 600(40)/400 = 60m²
- SAND AREA PROVIDED = 9.60m x 9.68m = 92.9m² (min.)

7) LEACHING BED CONSTRUCTION GUIDELINES

- REMOVE ALL EXISTING TOPSOIL, AND ANY FILL WITHIN LIMITS OF THE SAND AREA AND SUBEXCAVATE TO AT LEAST ELEVATION 93.60m TO 93.62m, WHICHEVER IS GREATER. RE-ESTABLISH THE SPECIFIED CONTACT LEVEL USING SELECT SAND FILL, WHERE REQUIRED.
- THE SUBGRADE SURFACE SHALL BE SCARIFIED, **UNDER DRY CONDITIONS.**
- PLACE A 50mm MIN. THICK LAYER OF LIMESTONE ROCK OVER THE SUITABLY PREPARED SUBGRADE.
- LIMESTONE ROCK SHALL NO SMALLER THAN 25mm IN DIAMETER UP TO 50mm IN DIAMETER. THE ROCK SHALL CONTAIN GREATER THAN 15% LIMESTONE AS PER ELJEN DENITRIFICATION SUPPLEMENTAL DESIGN AND INSTALLATION MANUAL.
- PLACE A 300mm THICK LAYER OF SAND / LIGNOCELLULOSE OVER THE LIMESTONE ROCK LAYER.
- SAND / LIGNOCELLULOSE SHALL CONSIST OF WOOD CHIPS OR SAW DUST FROM HARD WOOD TREES THAT HAVE NOT BEEN FURTHER PROCESSED BY CHEMICALS. THE 300mm SAND AND LIGNOCELLULOSE LAYER SHALL BE 50/50 EQUAL MIXTURE OF ASTM C33 SAND AND WOOD CHIPS FROM HARD WOOD TREES. THE MIXTURE MUST NOT EXCEED 60/40 IN FAVOR OF THE MORE WOOD TO SAND.
- PLACE A 450mm MIN. THICK LAYER OF ELJEN SPECIFIED SAND FILL OVER THE LEACHING BED FILL.
- THE ELJEN SPECIFIED SAND FILL SHALL CONSIST OF WASHED SAND MEETING THE REQUIREMENTS OF ASTM C33 "STANDARD SPECIFICATION FOR CONCRETE AGGREGATES" WITH LESS THAN THAN 5% PASSING 0.075mm SIEVE. ELJEN SPECIFIED SAND FILL SHALL BE PRE-APPROVED BY THE CONSULTANT.
- THE MODULES SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
- THE MODULES SHALL BE INSTALLED AT A SLOPE OF 0.3%(min.) to 0.5%(max.), END TO END AND WITH THE WHITE DEMARCATION LINE FACING UP.
- THE MODULAR BASE LEVEL (ELEV. 94.40m AT THE FOOT, TO 94.42m AT THE HEAD) SHALL BE ESTABLISHED WITH ELJEN SPECIFIED SAND FILL, HAVING A MINIMUM THICKNESS OF 450mm BELOW THE MODULES.
- THE ELJEN MODULES SHALL BE FED BY GRAVITY BY A 100mmØ PVC SEWER PIPE @ 2% (min.) SLOPE FROM THE DISTRIBUTION BOX
- THE DISTRIBUTION PIPE SHALL CONSIST OF A 100mmØ PERFORATED PVC PIPE CENTRED OVER THE MODULES. THE PIPE SHALL BE SECURED TO THE TOP OF THE MODULES USING AN ELJEN HOOP (MINIMUM 1 HOOP PER MODULE).
- THE INVERT LEVEL OF THE DISTRIBUTION PIPE SHALL BE SET ON THE MODULES AT ELEVATION 94.58m AT THE FOOT TO 94.60m AT THE HEAD. THE END OF THE PIPE RUNS SHALL BE CONNECTED TO A 100mmØ SOLID PVC FOOTER PIPE
- INSTALL ELJEN SYSTEM SAMPLING DEVICE AS PER MANUFACTURER'S RECOMMENDATIONS.
- THE ELJEN ANTI-SILTATION FILTER FABRIC SHALL BE SPREAD LENGTHWISE OVER THE PERFORATED SEPTIC PIPE AND DOWN THE SIDES OF THE MODULES. ENSURE ENDS OF MODULES ARE ALSO COVERED WITH FABRIC.
- THE MODULES SHALL BE BACKFILLED, WITH ELJEN SPECIFIED SAND FILL TO AT LEAST THE TOP OF THE ELJEN MODULES, FOLLOWED BY 200mm (min.) OF LEACHING BED FILL, FOLLOWED BY 100mm OF SANDY TOPSOIL, WITHIN THE LIMITS OF THE SAND AREA. THE BED AREA SHOULD BE VEGETATED AS SOON AS POSSIBLE.
- LEACHING BED SAND FILL SHALL BE UNIFORM SAND WITH GRADING LIMITS SIMILAR TO 100% PASSING 13.2mm SIEVE, LESS THAN 5% PASSING 0.075mm SIEVE, AND HAVING A PERCOLATION TIME OF 6 TO 8 min/cm. LEACHING BED FILL SHALL BE PRE- APPROVED BY THE CONSULTANT.
- THE SIDES OF THE BED SHOULD BE SLOPED AT 3H:1V OR SHALLOWER.
- VENT SYSTEM SHALL BE INSTALLED ON THE FOOTER PIPE. CONNECT A 100mmØ PVC VENT PIPE TO FOOTER PIPE, EXTENDING TO GROUND SURFACE. VENT PIPE TO BE INSTALLED IN 150mmØ LANDSCAPE VALVE COVER.

8) MINIMUM CLEARANCE DISTANCE FROM DISTRIBUTION PIPE

- 5.6m FROM ANY PROPERTY LINE
- 7.6m FROM ANY STRUCTURE: 5.0m FROM ANY BASEMENTLESS STRUCTURE
- 17.6m FROM ANY DRILLED WELL
- 5.0m FROM ANY TREE (UNLESS OTHERWISE APPROVED)

9) MINIMUM CLEARANCE DISTANCE FROM TANK(S)

- 1.5m FROM ANY STRUCTURE
- 15.0m FROM ANY DRILLED OR DUG WELL
- 3.0m FROM ANY PROPERTY LINE

10) GENERAL

- SNOW STORAGE SHALL NOT BE LOCATED OVER OR UPGRADIENT OF THE PROPOSED SEWAGE SYSTEM.
- THE SEWAGE SYSTEM HAS NOT BEEN DESIGNED TO SUPPORT TRAFFIC LOADING.
- THE BACKFILLING OF THE SEWAGE SYSTEM SHOULD MINIMIZE THE RISK OF OVER COMPACTION WITH THE USE RUBBER TRACKED EQUIPMENT AND BY AVOIDING THE CREATION OF ANY CONSTRUCTION ROUTES OR PATHWAYS OVER THE SYSTEM.
- ANY NEW IRRIGATION / SPRINKLER SYSTEM SHOULD NOT BE USED IN PROXIMITY OF THE PROPOSED SEWAGE SYSTEM.
- ENSURE WALKWAYS AND/OR SHURBBERY ARE NOT PLACED WITHIN PROXIMITY OF THE TANKAGE.
- THE BACKWASH WATERS FROM ANY WATER TREATMENT UNIT, SUCH AS WATER SOFTENER, SHOULD NOT DISCHARGE INTO THE SEWAGE SYSTEM.
- THE SEWAGE SYSTEM HAS NOT BEEN DESIGNED FOR THE USE OF A GARBAGE DISPOSAL.
- SEWAGE SYSTEM INSTALLER SHALL BE QUALIFIED AND REGISTERED UNDER PART 8 OF THE ONTARIO BUILDING CODE AND SHALL BE AN AUTHORIZED EJLEN TREATMENT SYSTEM INSTALLER.
- ALL WORK SHALL BE CARRIED OUT IN ACCORDANCE WITH THE LATEST BY-LAWS, CODES AND REGULATIONS.
- CONTRACTOR SHALL REVIEW DRAWINGS IN DETAIL AND SHALL INFORM THE CONSULTANT OF ANY ERRORS AND/OR OMISSIONS ON DESIGN DRAWINGS IMMEDIATELY.
- CONTRACTOR SHALL BE RESPONSIBLE TO LOCATE AND PROTECT ALL EXISTING UNDERGROUND SERVICES.
- CONTRACTOR SHALL VISIT THE SITE AND REVIEW ALL DOCUMENTATION TO BECOME FAMILIAR WITH THE SITE AND SUBSURFACE SOIL CONDITIONS TO DETERMINE SUITABLE METHODS OF CONSTRUCTION.
- THE MANUFACTURER PROVIDES A LIMITED WARRANTY OF THE SYSTEM COMPONENTS. THE OWNER OF THE SYSTEM MUST SIGN A MAINTENANCE AGREEMENT WITH THE MANUFACTURER'S REPRESENTATIVE. THE HOMEOWNER IS RESPONSIBLE FOR THE ANNUAL FEES ASSOCIATED WITH THE MAINTENANCE.
- THE FIRM OF PATERSON GROUP INC. HAS PROVIDED DESIGN SERVICES ONLY FOR THE SUBJECT SEWAGE SYSTEM. THE DESIGN HAS BEEN CARRIED OUT IN ACCORDANCE WITH THE MANUFACTURER'S GUIDELINES AND OUR INTERPRETATION OF PART 8 OF THE ONTARIO BUILDING CODE.
- INSPECTIONS BY THE CONSULTANT DURING THE INSTALLATION OF THE SYSTEM IS A REQUIREMENT OF SOME REGULATING AUTHORITIES AND IS STRONGLY RECOMMENDED BY THIS FIRM.
- THE PROPERTY LINE / SEPARATION DISTANCES SHOULD BE CONFIRMED PRIOR TO CONSTRUCTION.
- CONSTRUCTION INSPECTIONS DURING THE INSTALLATION OF THE SEWAGE SYSTEM MAY BE REQUIRED BY THE REGULATING AUTHORITY AND ARE STRONGLY RECOMMENDED BY THIS FIRM. IF THIS FIRM IS TO COMPLETE ANY CONSTRUCTION INSPECTION(S), ADDITIONAL FEES MAY BE APPLIED. CONFIRMATION OF PAYMENT WILL BE REQUIRED PRIOR TO THE INSPECTION.
- THE TEST HOLE INFORMATION PROVIDED, IS INTENDED TO BE USED FOR DESIGN PURPOSES ONLY, AND SHOULD NOT BE RELIED UPON FOR CONSTRUCTION PURPOSES. IF DISCREPANCIES ARE FOUND DURING THE CONSTRUCTION PROCESS, IT IS THE CLIENT'S RESPONSIBILITY TO CONTACT THIS FIRM TO MAKE ANY NECESSARY COMMENTS OR REVISIONS. ADDITIONAL REVISIONS ARE NOT CONSIDERED PART OF THE DESIGN WORKS AND WILL BE CONSIDERED AS AN ADDITIONAL COST.

Professional Engineers Ontario

Licensed Engineering Technologist

Name: H. G. VAN DE GLIND
Number: 100647862
Limitations: Inspecting, designing, and assessing residential and commercial sewage systems, grading designs and soil analysis, and overseeing installation and compliance.

Association of Professional Engineers of Ontario

DD/MM/YY	DESCRIPTION	REV.
04/06/25	Issued for Septic Permit	3
14/05/25	Issued with Revised Site Plan	2
03/10/24	Issued with Revised Site Plan	1
20/09/24	Issued for Preliminary Review	0

Consultant:

PATERSON GROUP
9 AURIGA DRIVE OTTAWA ON K2E 7Z9 TEL (613) 226-7381

Client:

STRATFORD FOXRUN

Project:

PROPOSED WAREHOUSE / RESTAURANT

5923 OTTAWA STREET OTTAWA (RICHMOND), ONTARIO

Drawing:

SEWAGE SYSTEM DETAILS AND NOTES SEWAGE SYSTEM 'B'

Scale:	Drawn by:
N.T.S.	HV
Date: 06/2025	Checked by: MK

Drawing No.:

PH4924-3(rev.3)

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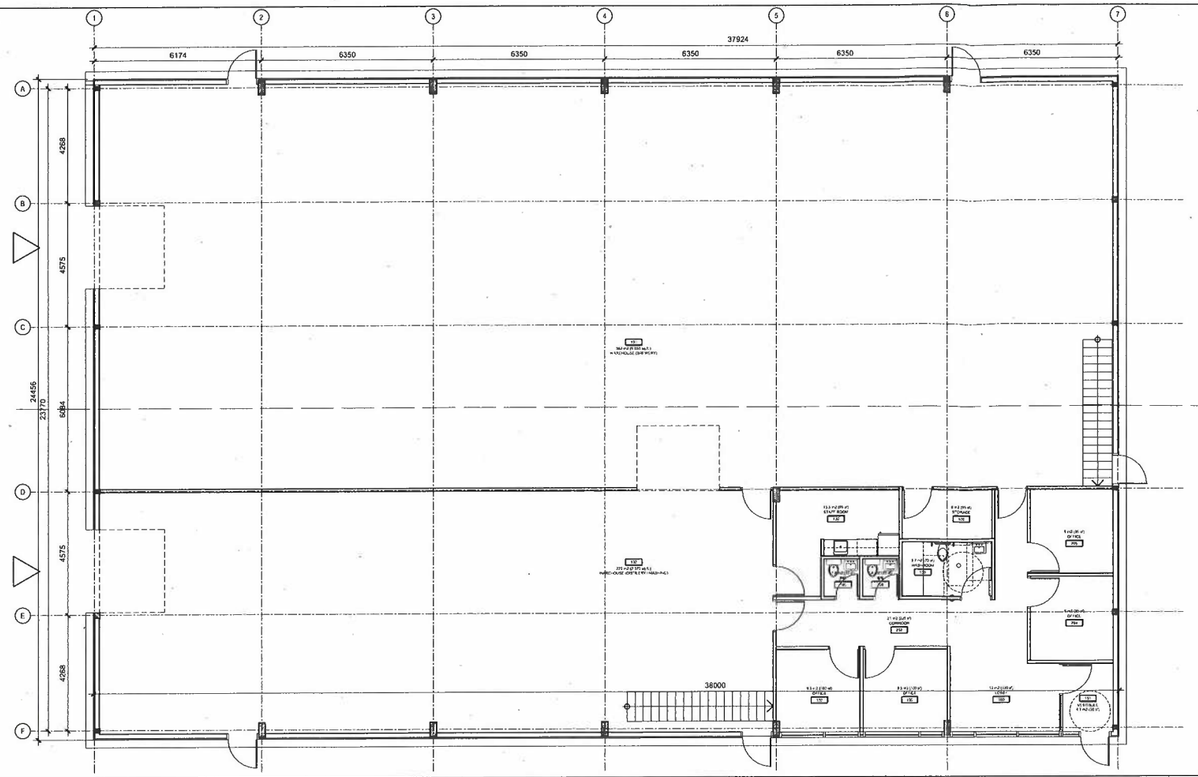
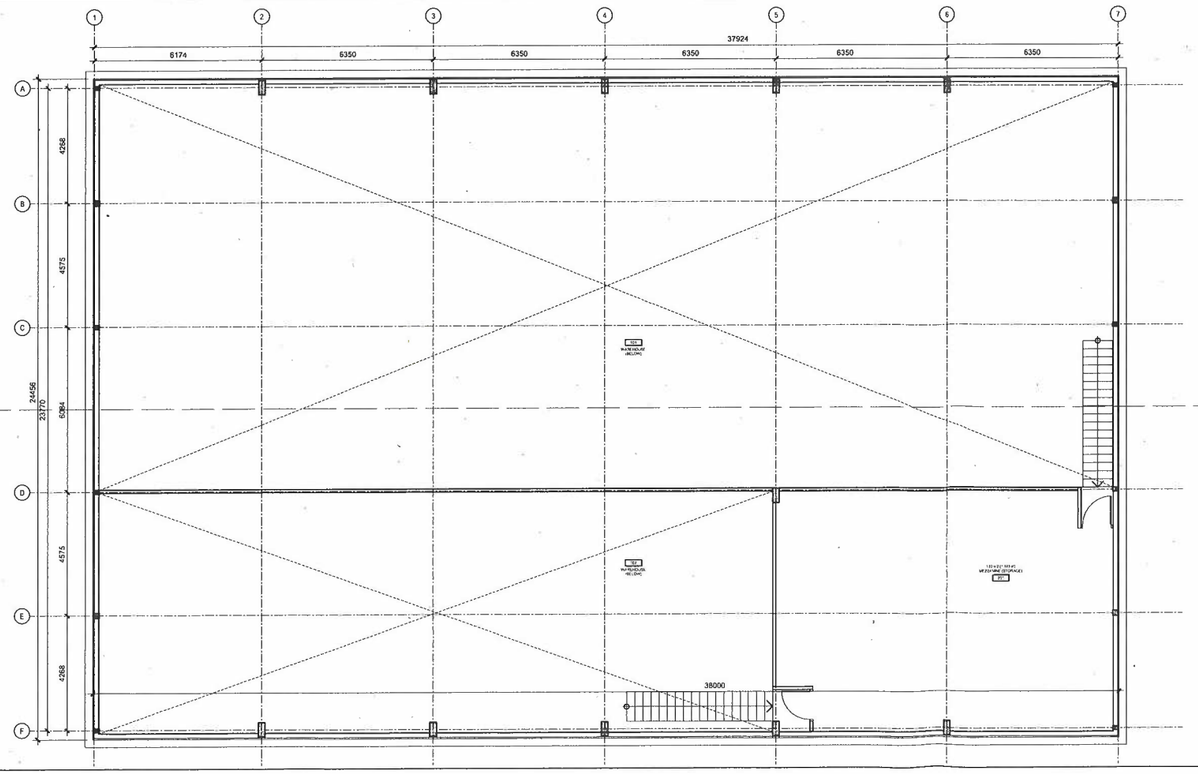


1 A-004 GROUND FLOOR PLAN
SCALE 1:100



BUILDING 2
SEWAGE SYSTEM "B"
25-177

2 A-004 MEZZANINE FLOOR PLAN
SCALE 1:100

STRATFORD FOX RUN
GROUP OF COMPANIES

no.	revision	date
-		
01	ISSUED FOR SPA	08MAY25

N45 ARCHITECTURE INC.
71 Bank Street, 7th floor - Ottawa, Ontario, K1P 5N2
tel. 613.224.0095 fax 613.224.9811

project
FOXRUN RICHMOND

5923 OTTAWA STREET
OTTAWA, ON

project north

seal
ONTARIO ASSOCIATION OF ARCHITECTS
VLADIMIR POPOVIC
LICENCE
5918

drawing title
BREWERY BUILDING

scale AS NOTED	drawn by NF
date MARCH 2025	checked by VP
project number 24-826	drawing number A-004

CONTRACTOR TO VERIFY ALL DIMENSIONS AND NOTIFY THE ARCHITECT OF ANY DISCREPANCIES BEFORE WORK COMMENCES.
DO NOT SCALE DRAWINGS.

revision -

Rideau Valley Conservation Authority

Permit
Part 8 – Sewage System
Ontario Building Code

Do Not Complete
Permit No 25-177
Revision No
Date
Related Application

A copy of this permit must be posted on the property at all time during construction. OBC, Division C — Part 1, Section 1.3.2.1

This permit verifies that the on-site sewage system was reviewed and approved for construction under the Ontario Building Code Act (Building Code Act, 1992, S.O. 1992, c. 23) and Ontario Building Code (O. Reg. 163/24) as amended.

Inspected & Recommended by: Matt Panciuk
Owner: 99117756 Canada Inc.
Inspection Date & Time:
Weather:
Address: 5923 Ottawa Street - System B
Legal:
In the former Township/City of Goulbourn

Design Flow for Commercial / Institutional / Industrial (as per Table 8.2.1.3.B)

Q: 600 L/day

septic tank 3600(min) L
effluent filter YES
pump rate 25 + Charge L/15 MIN
treatment unit Eljen GSF A42(DN 450)
number of units 8

weigh bills for Eljen Sand	■ yes	❒ no
grain size analysis required	■ yes	❒ no
site to be scarified	■ yes	❒ no
clay seal inspection	❒ yes	■ no
mantle required	❒ yes	■ no
sub-grade inspection	■ yes	❒ no

ELEVATION ☐ In Ground ☐ Partially Raised ☒ Fully Raised

TYPE OF SYSTEM

❒ **Trench**
◯ **Pipe and Stone or** ◯ **Chambers**
type of chamber
loading area m^2
total trench length m
trench configuration

■ **Dispersal Bed**
◉ BMEC ◯ Type A ◯ Type B
stone m^2
sand 92.9 m^2
pipe 2 runs of 4 modules @ 4.5m o/c
weight of sand kg

❒ **Shallow Buried Trench**
pipe length m
orifice spacing m

❒ **Filter Media Bed**
stone m^2
extended base m^2
pipe
weight of filter media kg
loading area m^2

❒ **Class 5 Holding Tank**

❒ **Septic Tank Only**

Manager, Septic System Approvals: Jason Hull Permit Date: August 5, 2025
Comments: 1. Scarification inspection required prior to placement of sand fill.

■ maintenance/pumping required ■ ESA permit # required ❒ engineer to verify ■ subgrade ❒ squirt height
❒ Class 5 Holding Tank approval only valid for three years from date of issue

Manager, Septic System Approvals: Revision Date:
Comments:

NOTE: For further details, refer to corresponding application.

June 2025

ROAD ALLOWANCE BETWEEN LOTS 25 & 26 CONCESSION 3

PART 1
R.P 4R-13387

N42°37'20"W

100mmØ PVC PIPE TO BE INSTALLED @ 2% (min.) SLOPE AND SHALL BE SLEEVED THROUGH A 150mm Ø PVC SDR28 PIPE AND OVERLAIN BY 75mm T x 600mm W RIGID INSULATION BOARDS UNDER ASPHALT. PATERSON TO REVIEW COVER UPON COMPLETION OF LOT GRADING AND DRAINAGE.

NEW 3,600L PRETREATMENT TANK c/w
- TANK SHALL BE CPA APPROVED (OR ENGINEERED) FOR 1.2m (min.) OF COVER.
- TANK SHALL BE REVIEWED FOR BALLASTING REQUIREMENTS.
- POLYLOK PL-525 EFFLUENT FILTER
- POLY RISER & COVER ASSEMBLY (2)
- INLET INV. = 94.27m±
- OUTLET INV. = 94.22m±
- TOP OF TANK = 94.55m±
- FINISHED GRADE = 95.15m

3m L - 100mmØ PVC PIPE WITH ELBOW @ 2% (min.) SLOPE

TYP.
2 OUTLET DISTRIBUTION BOX C/W INLET BAFFLE AND POLYLOK FLOW EQUALIZERS
INLET INV. 94.90m(min.)
OUTLET INV. = 94.80m (min.)

SS 'B'

ELJEN SAMPLING PAN
- INSTALL COLLECTION PLATES AS PER MANUFACTURER SPECIFICATIONS

2 RUNS OF 4 ELJEN GSF A-42 MODULES
MODULAR BASE ELEV. @ HEAD = 94.42m
MODULAR BASE ELEV. @ FOOT = 94.40m

TYP.
100mmØ VENT PIPE INSTALLED IN 150mmØ LANDSCAPE VALVE COVER

TYP.
100mmØ SOLID PVC FOOTER PIPE
INV. = 94.58m

BH 1-25
94.07
(93.63)

TYP.
BOLLARDS

PROPOSED INDUSTRIAL BUIDLING
(ONE STOREY)

38mmØ PVC SCH 40 PIPE FORCEMAIN
- SHALL BE INSTALLED TO GRAVITY DRAIN TO THE TANK.
- ENTIRE LENGTH OF FORCEMAIN SHALL BE BEDDED OF A MINIMUM OF 150mm OF OPSS GRANULAR A, AND SHALL BE COVERED WITH A MINIMUM OF 300mm OF OPSS GRANULAR A.
- ALL GRANULAR A MATERIAL SHALL BE COMPACTED TO A MINIMUM OF 98% SPMDD.

450L (min.) BALANCING TANK c/w TIME OPERATED EFFLUENT 1/2 H.P. SIMPLEX PUMP AND AUDIBLE / VISUAL HIGH WATER ALARM.
- TANK SHALL BE CPA APPROVED (OR ENGINEERED) FOR 1.2m (min.) OF COVER.
- TANK SHALL BE REVIEWED FOR BALLASTING REQUIREMENTS.
- POLY RISER AND COVER ASSEMBLY
- INLET INV. = 94.17m
- FINISHED GRADE = 95.15m

BH 2-24
93.69
(93.69)

100mmØ PERFORATED PVC SEPTIC PIPE INSTALLED @ APPROX. 0.5% ON ELJEN MODULES
HEAD INV. = 94.60m
FOOT INV. = 94.58m

ELJEN SPECIFIED SAND AREA
- 630 mm THICK (TOP OF MODULE TO BASE)
- 9.60m x 9.68m
- FOLLOWED BY 300 mm THICK OF SAND/LIGNOCELLULOSE LAYER
- FOLLOWED BY 50 mm THICK LAYER OF LIMESTONE

ASPHALT

NOTE:
SNOW STORAGE SHALL NOT BE LOCATED OVER OR UPGRADIENT OF THE PROPOSED SEWAGE SYSTEM.

SNOW STORAGE

NOTE:
SNOW STORAGE SHALL NOT BE LOCATED OVER OR UPGRADIENT OF THE PROPOSED SEWAGE SYSTEM.

SNOW STORAGE

TYP.
100mmØ SOLID PVC FOOTER PIPE
INV. = 94.78m

TYP.
100mmØ VENT PIPE INSTALLED IN 150mmØ LANDSCAPE VALVE COVER

TYP.
2 x LARGE 4 OUTLET DISTRIBUTION BOX C/W INLET BAFFLE AND POLYLOK FLOW EQUALIZERS
INLET INV. 95.10m(min.)
OUTLET INV. = 95.00m (min.)

100mmØ PERFORATED PVC SEPTIC PIPE INSTALLED @ APPROX. 0.5% ON ELJEN MODULES
HEAD INV. = 94.83m
FOOT INV. = 94.78m

SS 'A'

BH 4-24
94.11
(94.01)

EXISTING MONITORING WELL TO BE DECOMMISSIONED

CONCRETE

2 x 38mmØ PVC SCH 40 PIPE FORCEMAIN
- SHALL BE INSTALLED TO GRAVITY DRAIN TO THE TANK.
- ENTIRE LENGTH OF FORCEMAIN SHALL BE BEDDED OF A MINIMUM OF 150mm OF OPSS GRANULAR A, AND SHALL BE COVERED WITH A MINIMUM OF 300mm OF OPSS GRANULAR A.
- ALL GRANULAR A MATERIAL SHALL BE COMPACTED TO A MINIMUM OF 98% SPMDD.

PART 4
R.P 4R-7050

3m L - 100mmØ PVC PIPE WITH ELBOW @ 2% (min.) SLOPE

2 CELLS OF 5 RUNS OF 11 ELJEN GSF A-42 MODULES
MODULAR BASE ELEV. @ HEAD = 94.65m
MODULAR BASE ELEV. @ FOOT = 94.60m

ELJEN SAMPLING PAN
- INSTALL COLLECTION PLATES AS PER MANUFACTURER SPECIFICATIONS

ELJEN SPECIFIED SAND AREA
- 630 mm THICK (TOP OF MODULE TO BASE)
- 37.24m x 22.50m
- FOLLOWED BY 300 mm THICK OF SAND/LIGNOCELLULOSE LAYER
- FOLLOWED BY 50 mm THICK LAYER OF LIMESTONE

PROPOSED INDUSTRIAL BUIDLING
(ONE STOREY)

PROPOSED FINISHED FLOOR ELEVATION: 95.25

PAVERS

TYP.
BOLLARDS

BH 3-24
93.85
(93.85)

EXISTING DRILLED WELL TO BE DECOMMISSIONED

NOTE:
INTERNAL GREASE TRAPS SHALL BE PROVIDED ON KITCHEN FIXTURES.

100mmØ PVC PIPE TO BE INSTALLED @ 2% (min.) SLOPE AND SHALL BE SLEEVED THROUGH A 150mm Ø PVC SDR28 PIPE AND OVERLAIN BY 75mm T x 600mm W RIGID INSULATION BOARDS UNDER ASPHALT.
OUTLET ELEV. @ PROPOSED BUILDING = 94.79m±

BH 1-24
94.20
(93.63)

CONCRETE

NEW 28,101L PRETREATMENT TANK c/w
- TANK SHALL BE CPA APPROVED (OR ENGINEERED) FOR 1.2m (min.) OF COVER.
- TANK SHALL BE REVIEWED FOR BALLASTING REQUIREMENTS
- POLYLOK PL-525 EFFLUENT FILTER
- POLY RISER & COVER ASSEMBLY (2)
- INLET INV. = 94.50m±
- OUTLET INV. = 94.45m±
- TOP OF TANK = 94.80m±
- FINISHED GRADE = 95.40m

18,500L (min.) BALANCING TANK c/w TIME OPERATED EFFLUENT 1/2 H.P. DUPLEX PUMPS AND AUDIBLE / VISUAL HIGH WATER ALARM.
- TANK SHALL BE CPA APPROVED (OR ENGINEERED) FOR 1.2m (min.) OF COVER.
- TANK SHALL BE REVIEWED FOR BALLASTING REQUIREMENTS.
- PUMPING SYSTEM SHALL BE TIME DOSED TO OPERATE EVERY HOUR AND ALTERNATE BETWEEN CELLS.
- POLY RISER AND COVER ASSEMBLY
- INLET INV. = 94.40m±
- TOP OF TANK (max.) = 94.75m±
- FINISHED GRADE = 95.40m

EXISTING DRILLED WELL

No. 5935 2 Storey Block and Metal Clad Building

BH 5-24
93.92
(93.72)

TBM:
TOP OF SPIKE IN HYDRO POLE ACROSS FROM EAST PROPERTY LINE OF 5935 OTTAWA STREET
GEODETIC ELEV. = 94.86m

N42°32'25"W

N47°26'50"E

180.06

110.00

SSIB (1916)

SIB (WSG)

Ditch

Gravel Shoulder

94.66 Asphalt

OTTAWA STREET

Ditch

Gravel Shoulder

94.75

NOTE:
SEWAGE SYSTEM 'B' HAS BEEN DESIGNED BASED ON *PATERSON GROUP REPORT PH4924-LET.01*

TOTAL DESIGN DAILY SANITARY SEWAGE FLOW (T.D.D.S.S.F.) OR "Q" = 600 L/DAY

NATIVE SOILS = GLACIAL TILL TO SILTY CLAY = T = 40 min/cm

MINIMUM NITRATE REDUCTION LEVEL REQUIRED = 50% AS PER PATERSON GROUP REPORT No. *PH4924-LET.01*

ELJEN DN450 SHALL BE USED TO ACHIEVE THE MINIMUM REQUIRED NITRATE REDUCTION.

PRESENTLY PROPOSED ELEVATIONS ARE BASED OFF THE EXISTING TOPOGRAPHIC INFORMATION. THE PROPOSED LOT GRADING AND DRAINAGE ASSOCIATED WITH THE PROPOSED ADDITION MAY AFFECT THESE ELEVATIONS.

NOTE:
SEWAGE SYSTEM 'A' HAS BEEN DESIGNED BASED ON *PATERSON GROUP REPORT PH4924-LET.01*

TOTAL DESIGN DAILY SANITARY SEWAGE FLOW (T.D.D.S.S.F.) OR "Q" = 9,367 L/DAY

NATIVE SOILS = GLACIAL TILL TO SILTY CLAY = T = 35 min/cm

MINIMUM NITRATE REDUCTION LEVEL REQUIRED = 50% AS PER PATERSON GROUP REPORT No. *PH4924-LET.01*

ELJEN DN450 SHALL BE USED TO ACHIEVE THE MINIMUM REQUIRED NITRATE REDUCTION.

PRESENTLY PROPOSED ELEVATIONS ARE BASED OFF THE EXISTING TOPOGRAPHIC INFORMATION. THE PROPOSED LOT GRADING AND DRAINAGE ASSOCIATED WITH THE PROPOSED ADDITION MAY AFFECT THESE ELEVATIONS.

NATIONAL TRUNK (FROM LIFT STATION)

Slope to Ditch

Ditch

Professional Engineers Ontario

Licensed Engineering Technologist

Name: H. G. VAN DE GLIND
Number: 100647862
Limitations: Inspecting, designing, and assessing residential and commercial sewage systems, grading designs and soil analysis, and overseeing installation and compliance.

Association of Professional Engineers of Ontario

LEGEND:

- Bore Hole Location
- x 70.81 — Existing Ground Surface Elev. (m)
- x 72.70 — Proposed Ground Surface Elev. (m)
- 72.70 — Proposed Subgrade Elev. (m)
- (70.7) — Groundwater Elev. (m) - Mar.6/22
- F.F.E. — Finished Floor Elev. (m)
- Existing Structure
- Proposed Structure

All Units are in meters unless otherwise specified

BENCHMARK INFORMATION:

TBM: Top of Spike in Hydro Pole Across from East Property Line of 5935 Ottawa Street
Approximate Geodetic Elevation = 94.86m

REFERENCE:

Topographic Information obtained from Plan of Survey of Part of Unit 10 Index Plan D-26 Geographic Township of Goulbourn City of Ottawa, dated July 9, 2024, by egis Surveying Inc.

Baseplan Obtained from Site Plan No. A-001, dated May 2025, by N45 Architecture Inc.

Consultant

PATERSON GROUP

9 AURIGA DRIVE
OTTAWA, ON
K2E 7S9
TEL: (613) 226-7381

14/08/25	Revised as per City of Ottawa Comments	4
04/06/25	Issued for Septic Permit	3
14/05/25	Issued with Revised Site Plan	2
03/10/24	Issued with Revised Site Plan	1
DD/MM/YY	Description	Rev.

Client: **STRATFORD FOXRUN**

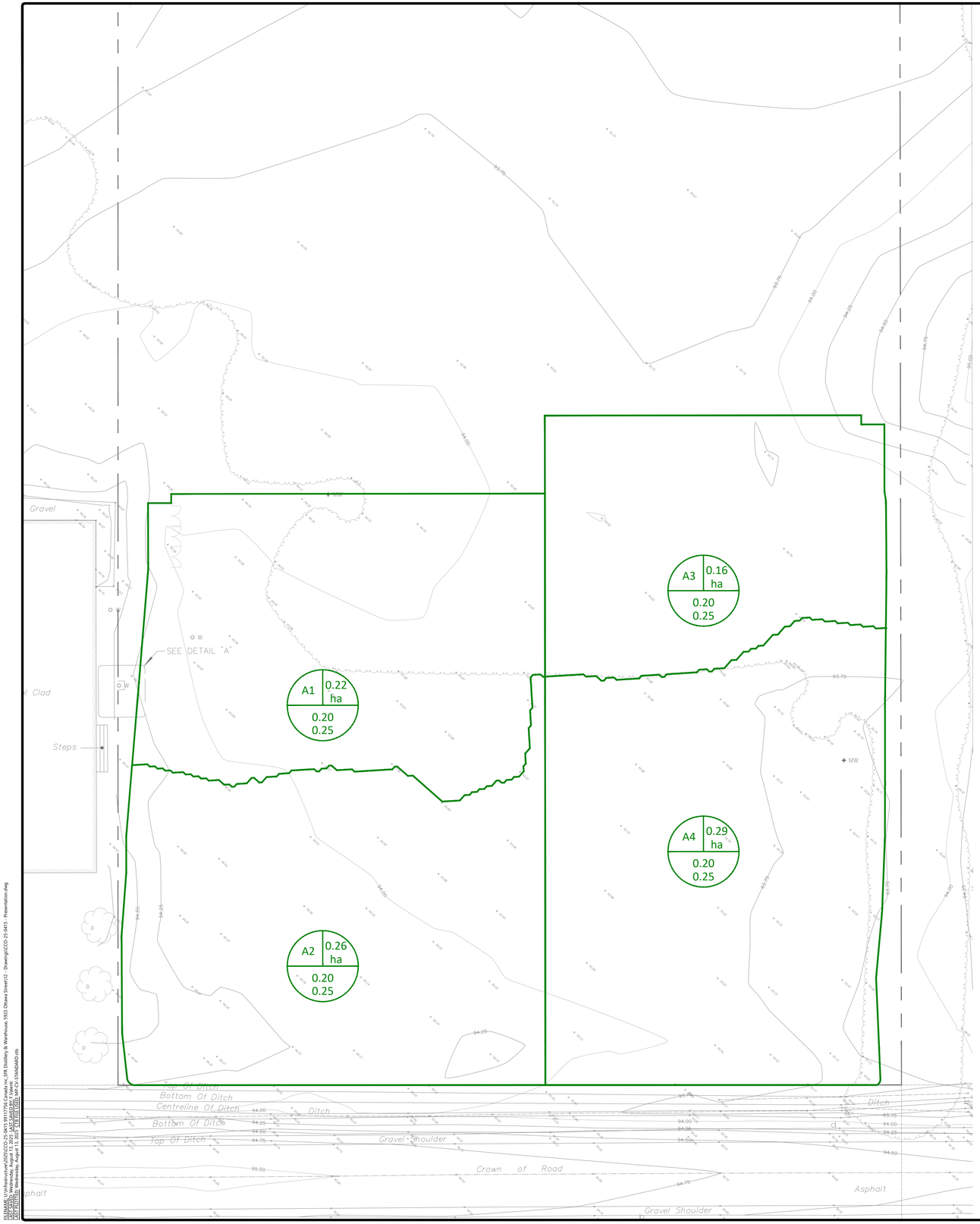
Project: **PROPOSED WAREHOUSE / RESTAURANT**
5923 OTTAWA STREET
OTTAWA (RICHMOND), ONTARIO

Drawing: **SEWAGE SYSTEM LAYOUT PLAN**
SEWAGE SYSTEM 'A' AND 'B'

Scale: 1:600 | Drawn by: HV
Date: 08/2025 | Checked by: MK
Drawing no.: **PH4924-1(rev.4)**

p:\autocad drawings\hydrogeology\ph4924 - stratford foxrun - jack gulas - 5923 ottawa street richmond\ph4924-1(rev.4).dwg

APPENDIX E
PRE-DEVELOPMENT DRAINAGE PLAN



GENERAL NOTES

1. THE ORIGINAL TOPOGRAPHY, GROUND ELEVATION AND SURVEY DATA SHOWN ARE SUPPLIED FOR INFORMATION PURPOSES ONLY, AND IMPLY NO GUARANTEE OF ACCURACY. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY ALL INFORMATION SHOWN.
2. THE CONTRACTOR IS TO OBTAIN AND PAY FOR ALL NECESSARY PERMITS AND APPROVALS FROM THE CITY BEFORE COMMENCING CONSTRUCTION.
3. THE CONTRACTOR IS RESPONSIBLE FOR ALL LAYOUT.
4. THE CONTRACTOR IS TO DETERMINE THE EXACT LOCATION, SIZE, MATERIAL AND ELEVATION OF ALL EXISTING UTILITIES PRIOR TO COMMENCING CONSTRUCTION. PROTECT AND ASSUME ALL RESPONSIBILITY FOR EXISTING UTILITIES WHETHER OR NOT SHOWN ON THESE DRAWINGS. IF THERE IS ANY DISCREPANCY THE CONTRACTOR IS TO NOTIFY THE ENGINEER PROMPTLY.
5. RESTORE ALL TRENCHES AND SURFACES OF PUBLIC ROAD ALLOWANCES TO CONDITION EQUAL OR BETTER THAN ORIGINAL CONDITION AND TO THE SATISFACTION OF THE CITY AUTHORITIES.
6. EXCAVATE AND DISPOSE OF ALL EXCESS EXCAVATED MATERIAL, SUCH AS ASPHALT, CURBING AND DEBRIS, OFF SITE AS DIRECTED BY THE ENGINEER AND THE CITY.
7. TOPSOIL TO BE STRIPPED AND STOCKPILED FOR REHABILITATION. CLEAN FILL TO BE PLACED IN FILL AREAS AND COMPACTED TO 95% STANDARD PROCTOR DENSITY.
8. CONTRACTOR TO MINIMIZE THE ACTUAL LIMITS OF REMOVALS AND DISTURBED AREA WHEREVER POSSIBLE, AND SHALL MAKE THEIR OWN JUDGEMENT AND ACCOUNT FOR ALL MATERIAL AND LABOUR REQUIRED FOR ADEQUATELY REINSTATING THE AREA TO PRE-CONSTRUCTION CONDITIONS OR BETTER, AND BEAR THE COST OF THE SAME. NO ADDITIONAL PAYMENT WILL BE MADE FOR REINSTATEMENT WORK NOT SHOWN ON THE CONTRACT DRAWING AS A DIRECT RESULT FROM CONSTRUCTION.
9. ALL DISTURBED AREAS TO BE RESTORED TO ORIGINAL CONDITION OR BETTER UNLESS OTHERWISE SPECIFIED.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TRAFFIC CONTROL AND SAFETY MEASURES DURING THE CONSTRUCTION PERIOD, INCLUDING THE SUPPLY, INSTALLATION, AND REMOVAL OF ALL NECESSARY SIGNAGE, DELINEATORS, MARKERS AND BARRIERS.
11. DO NOT ALTER GRADING OF THE SITE WITHOUT PRIOR APPROVAL OF THE ENGINEER/CITY.
12. ALL ROADWAY, PARKING LOT, AND GRADING WORKS TO BE UNDERTAKEN IN ACCORDANCE WITH CITY STANDARDS AND SPECIFICATIONS. THE CONTRACTOR IS TO PROVIDE POSITIVE DRAINAGE AWAY FROM THE BUILDING.
13. CONTACT THE CITY FOR INSPECTION OF ROUGH GRADING OF PARKING LOTS, ROADWAYS AND LANDSCAPED AREAS PRIOR TO PLACEMENT OF ASPHALT AND TOPSOIL. ALL DEFICIENCIES NOTED SHALL BE RECTIFIED TO THE CITY'S SATISFACTION PRIOR TO PLACEMENT OF ANY ASPHALT, TOPSOIL, SEED & MULCH AND/OR SOD.
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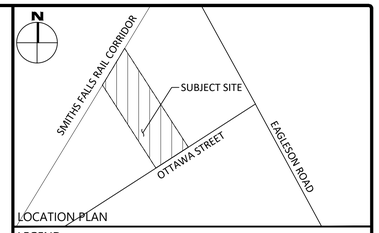
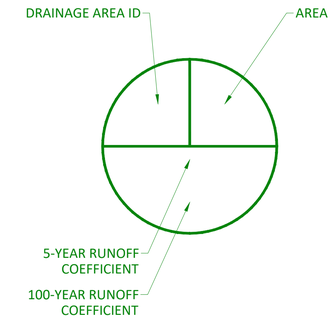
17. CONTRACTOR TO ENSURE ALL APPLICABLE OPS SPECIFICATIONS ARE FOLLOWED DURING CONSTRUCTION
18. ALL PROPOSED CURB TO BE CONCRETE BARRIER CURB UNLESS OTHERWISE SPECIFIED.



LOCATION PLAN

LEGEND



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No.	Revisions	Date
2	ISSUED FOR REVIEW	AUG. 12, 2025
1	ISSUED FOR SITE PLAN CONTROL	JUN. 06, 2025

Check and verify all dimensions before proceeding with the work

Do not scale drawings

SCALE 1 : 300

0 5 10 15 20 25 30 Metres

egis
115 Walgreen Road, R.R.3
Carp, ON K0A 1L0
Tel: 613-836-2184
Fax: 613-836-3742
www.egis-group.com

Stamp:

Client:

99117756 CANADA INC.
411 LEGGET DRIVE, SUITE 710
OTTAWA, ON K2K 3C9

Project:

DISTILLERY & WAREHOUSE
5923 OTTAWA STREET

Drawing Title:

PRE-DEVELOPMENT DRAINAGE AREA PLAN

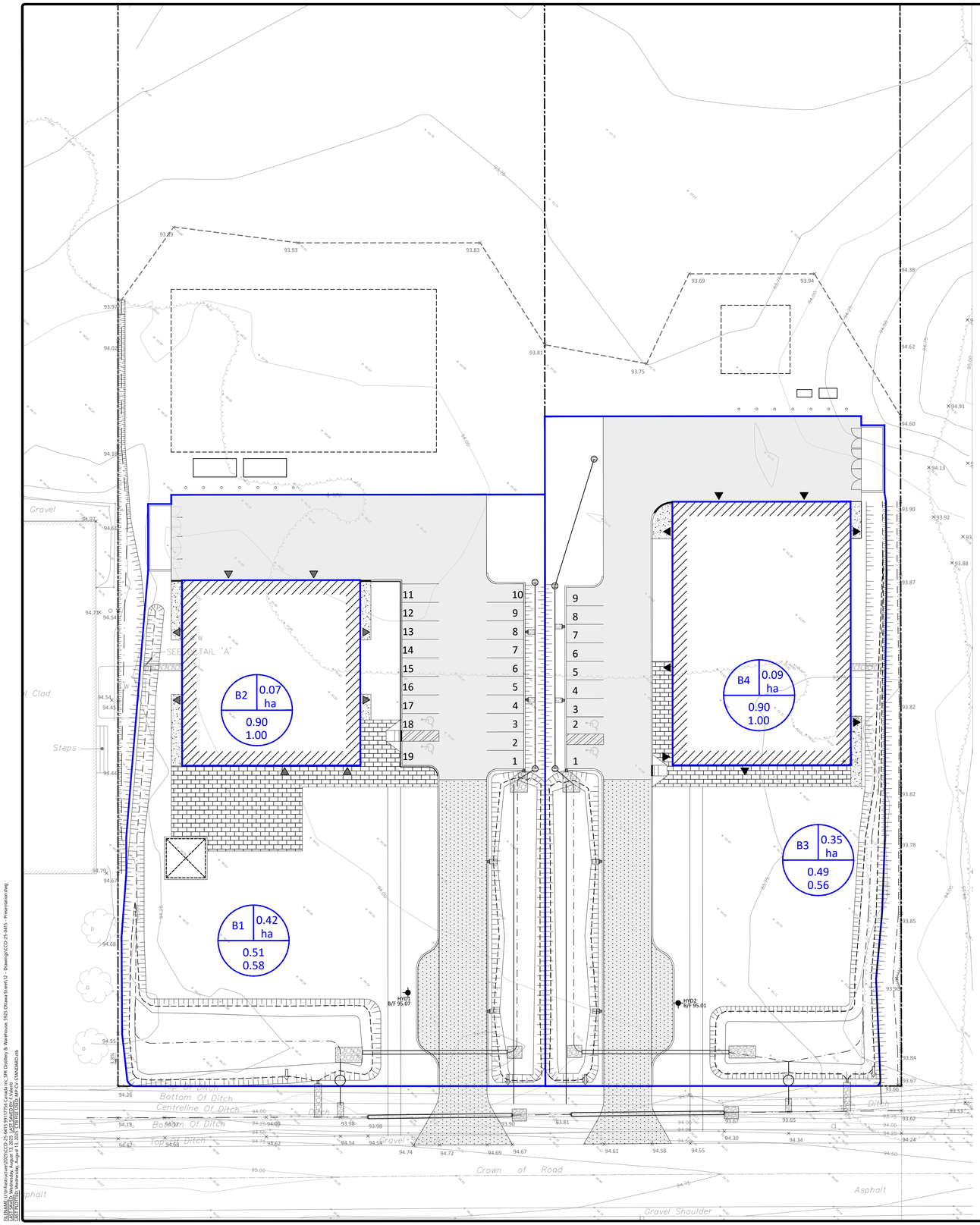
Scale: 1:300	Project Number: CCO-25-0415
Drawn By: FV	
Checked By: AG	Drawing Number: PRE
Designed By: AG	

D07-12-25-0078

#XXXXX

FILENAME: U:\Infrastructure\2025\CCO-25-0415 99117756 Canada Inc. 5PR Distillery & Warehouse, 5923 Ottawa Street\12 - Drawings\CCO-25-0415 - Presentation.dwg
LAYOUT: PRE Wednesday, August 13, 2025 - 11:36:41 AM
DATE PLOTTED: Wednesday, August 13, 2025 - 11:36:41 AM BY: FV
PLOT STYLE TABLE: egis.ctb LAYER: egis-STANDARD.ctb

APPENDIX F
POST-DEVELOPMENT DRAINAGE PLAN



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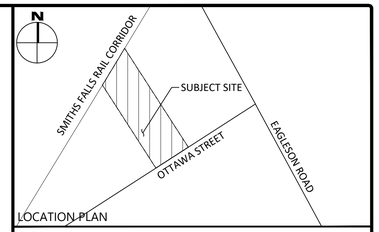
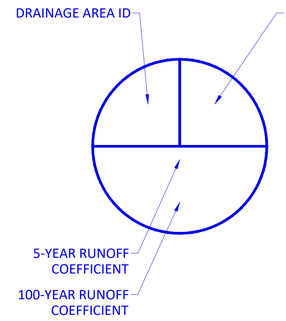


LOCATION PLAN

LEGEND



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2	ISSUED FOR REVIEW	AUG. 11, 2025
1	ISSUED FOR SITE PLAN CONTROL	JUN. 06, 2025

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SCALE 1 : 300

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Stamp:

Client:

99117756 CANADA INC.
411 LEGGET DRIVE, SUITE 710
OTTAWA, ON K2K 3C9

Project:

DISTILLERY & WAREHOUSE
5923 OTTAWA STREET

Drawing Title:

POST-DEVELOPMENT DRAINAGE AREA PLAN

Scale: 1:300	Project Number: CCO-25-0415
Drawn By: FV	
Checked By: AG	Drawing Number: POST
Designed By: AG	

D07-12-25-0078

#XXXXX

FILENAME: U:\Infrastructure\2025\CCO-25-0415 99117756 Canada Inc. 5PR Distillery & Warehouse, 5923 Ottawa Street\12 - Drawings\CCO-25-0415 - Presentation.dwg
LAYOUT: POST-DEVELOPMENT
LAST PLOTTED: Wednesday, August 13, 2025 - 11:56 AM BY KEITH KOTYL - MAP-CV - STANDARD.ctb

APPENDIX G
STORMWATER MANAGEMENT CALCULATIONS

Tc (min)	Intensity (mm/hr)		
	2-Year	5-Year	100-Year
20	52.0	70.3	120.0
10	76.8	104.2	178.6

C-Values	
Impervious	0.90
Gravel	0.60
Pervious	0.20

Pre-Development Runoff Coefficient

Drainage Area	Impervious Area (m^2)	Gravel (m^2)	Pervious Area (m^2)	Average C (2-Year)	Average C (100-Year)	
A1	0	0	2,219	0.20	0.25	Ph.1 Drainage to Rear Yard
A2	0	0	2,583	0.20	0.25	Ph.1 Drainage to Ottawa Street

Pre-Development Runoff Calculations

Drainage Area	Area (ha)	C 2/5-Year	C 100-Year	
A1	0.222	0.20	0.25	Ph.1 Drainage to Rear Yard
A2	0.258	0.20	0.25	Ph.1 Drainage to Ottawa Street
Total	0.480			

Post-Development Runoff Coefficient

Drainage Area	Impervious Area (m^2)	Gravel (m^2)	Pervious Area (m^2)	Average C (2-year)	Average C (100-year)	
B1	1,844	0	2,307	0.51	0.58	Ph.1 Surface Restricted
B2	651	0	0	0.90	1.00	Ph.2 Building - Restricted

Post-Development Runoff Calculations

Drainage Area	Area (ha)	C 2-Year	C 100-Year	
B1	0.415	0.51	0.58	Ph.1 Surface Restricted
B2	0.065	0.90	1.00	Ph.2 Building - Restricted
Total	0.480			

Tc (min)	Intensity (mm/hr)		
	2-Year	5-Year	100-Year
20	52.0	70.3	120.0
10	76.8	104.2	178.6

C-Values	
Impervious	0.90
Gravel	0.60
Pervious	0.20

Pre-Development Runoff Coefficient

Drainage Area	Impervious Area (m^2)	Gravel (m^2)	Pervious Area (m^2)	Average C (2-Year)	Average C (100-Year)	
A3	0	0	1,604	0.20	0.25	Ph.2 Drainage to Rear Yard
A4	0	0	2,858	0.20	0.25	Ph.2 Drainage to Ottawa Street

Pre-Development Runoff Calculations

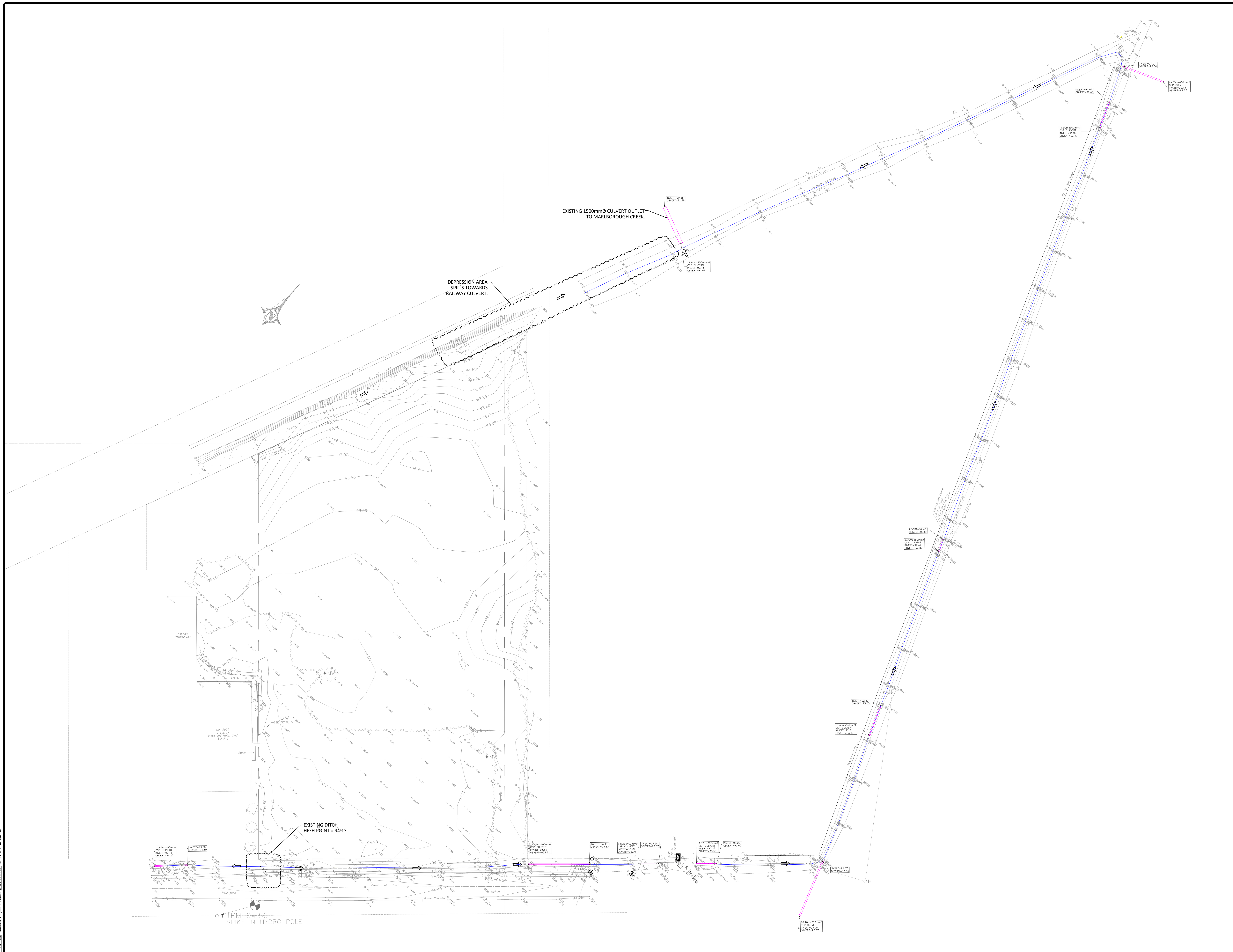
Drainage Area	Area (ha)	C 2/5-Year	C 100-Year	
A3	0.160	0.20	0.25	Ph.2 Drainage to Rear Yard
A4	0.286	0.20	0.25	Ph.2 Drainage to Ottawa Street
Total	0.446			

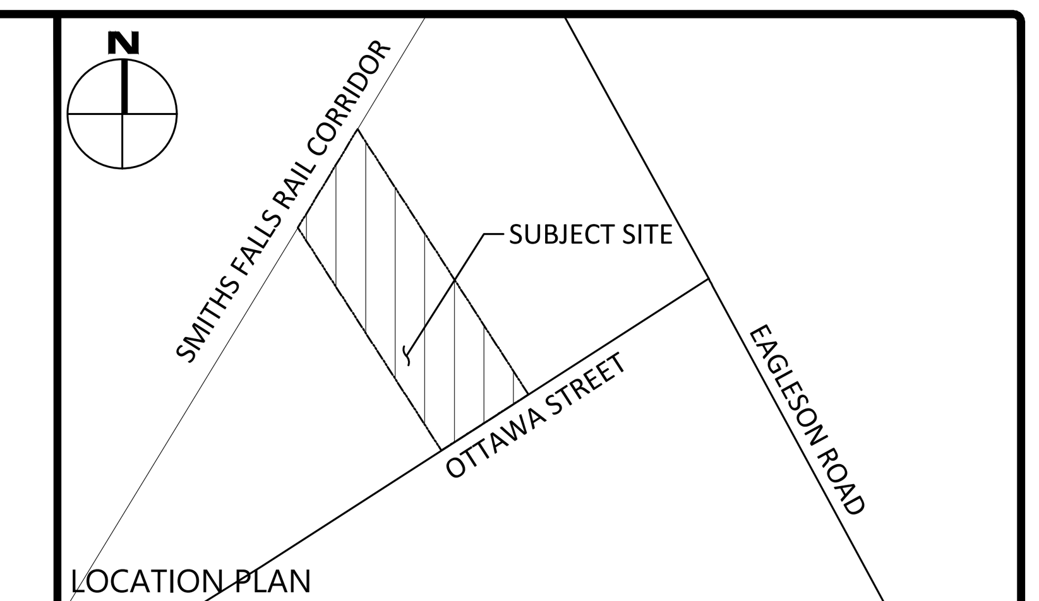
Post-Development Runoff Coefficient

Drainage Area	Impervious Area (m^2)	Gravel (m^2)	Pervious Area (m^2)	Average C (2-year)	Average C (100-year)	
B3	1,460	0	2,076	0.49	0.56	Ph.2 Surface Restricted
B4	926	0	0	0.90	1.00	Ph.2 Building - Restricted

Post-Development Runoff Calculations

Drainage Area	Area (ha)	C 2-Year	C 100-Year	
B3	0.354	0.49	0.56	Ph.2 Surface Restricted
B4	0.093	0.90	1.00	Ph.2 Building - Restricted
Total	0.446			





LOCATION PLAN

LEGEND

- DRAINAGE DIRECTION
- DRAINAGE DITCH
- EXISTING CULVERT

FOR REVIEW ONLY
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No.	Revisions	Date
1	ISSUED FOR REVIEW	AUG. 07, 2025

Check and verify all dimensions before proceeding with the work

Do not scale drawings

SCALE 1 : 750

0 25 50 75 Metres

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Client:
99117756 CANADA INC.
411 LEGGET DRIVE, SUITE 710
OTTAWA, ON K2K 3C9

Project:
DISTILLERY & WAREHOUSE
5923 OTTAWA STREET

Drawing Title:
EXISTING DITCH DRAINAGE FIGURE

Scale: 1:750

Project Number: CCO-25-0415

Drawn By: FV

Checked By: CJM

Designed By: FV

Drawing Number: C104

D07-12-XX-XXXX

#XXXXX

WATTS®	Adjustable Accutrol Weir Tag: _____	Adjustable Flow Control for Roof Drains

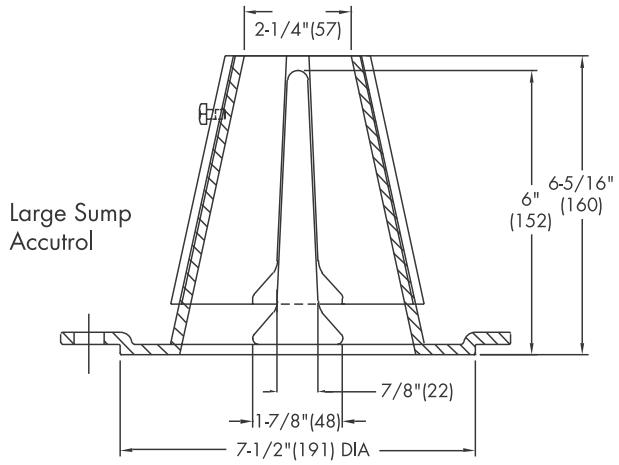
ADJUSTABLE ACCUTROL (for Large Sump Roof Drains only)

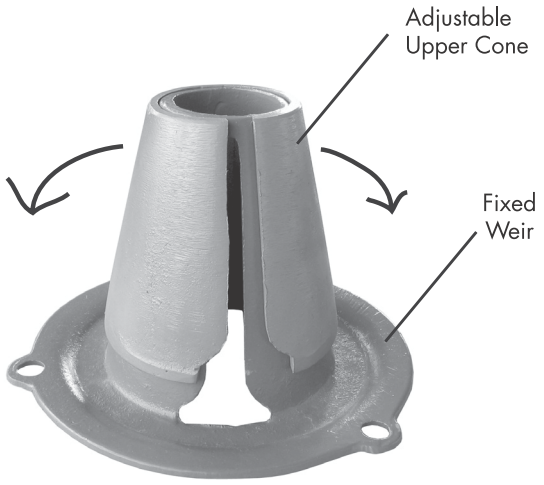
For more flexibility in controlling flow with heads deeper than 2", Watts Drainage offers the Adjustable Accutrol. The Adjustable Accutrol Weir is designed with a single parabolic opening that can be covered to restrict flow above 2" of head to less than 5 gpm per inch, up to 6" of head. To adjust the flow rate for depths over 2" of head, set the slot in the adjustable upper cone according to the flow rate required. Refer to Table 1 below.
Note: Flow rates are directly proportional to the amount of weir opening that is exposed.

EXAMPLE:

For example, if the adjustable upper cone is set to cover 1/2 of the weir opening, flow rates above 2"of head will be restricted to 2-1/2 gpm per inch of head.

Therefore, at 3"of head, the flow rate through the Accutrol Weir that has 1/2 the slot exposed will be:
[5 gpm (per inch of head) x 2 inches of head] + 2-1/2 gpm (for the third inch of head) = 12-1/2 gpm.





1/2 Weir Opening Exposed Shown Above

TABLE 1. Adjustable Accutrol Flow Rate Settings

Weir Opening Exposed	1"	2"	3"	4"	5"	6"
	Flow Rate (gallons per minute)					
Fully Exposed	5	10	15	20	25	30
3/4	5	10	13.75	17.5	21.25	25
1/2	5	10	12.5	15	17.5	20
1/4	5	10	11.25	12.5	13.75	15
Closed	5	5	5	5	5	5

Job Name _____ Contractor _____

Job Location _____ Contractor's P.O. No. _____

Engineer _____ Representative _____

USA: Tel: (800) 338-2581 • Fax: (828) 248-3929 • Watts.com
Canada: Tel: (905) 332-4090 • Fax: (905) 332-7068 • Watts.ca
Latin America: Tel: (52) 81-1001-8600 • Fax: (52) 81-8000-7091 • Watts.com

WATTS®
A Watts Water Technologies Company

Stormceptor® EF Sizing Report

Imbrium® Systems
ESTIMATED NET ANNUAL SEDIMENT (TSS) LOAD REDUCTION

08/14/2025

Province:	Ontario
City:	Ottawa
Nearest Rainfall Station:	OTTAWA CDA RCS
Climate Station Id:	6105978
Years of Rainfall Data:	20

Site Name:	Phase 1

Drainage Area (ha):	0.48
Runoff Coefficient 'c':	0.59

Particle Size Distribution:	CA ETV
Target TSS Removal (%):	60.0

Required Water Quality Runoff Volume Capture (%):	90.00
Estimated Water Quality Flow Rate (L/s):	9.14
Oil / Fuel Spill Risk Site?	Yes
Upstream Flow Control?	No
Peak Conveyance (maximum) Flow Rate (L/s):	18.00
Influent TSS Concentration (mg/L):	200
Estimated Average Annual Sediment Load (kg/yr):	189
Estimated Average Annual Sediment Volume (L/yr):	154

Project Name:	5923 Ottawa St. (Distillery and Warehouse)
Project Number:	CC0-25-0415
Designer Name:	Jessica Steffler
Designer Company:	Forterra Pipe & Precast
Designer Email:	jessica.steffler@RinkerPipe.com
Designer Phone:	519-239-6958
EOR Name:	Francis VALENTI
EOR Company:	EGIS
EOR Email:	Francis.VALENTI@egis-group.com
EOR Phone:	613-714-6895

Net Annual Sediment (TSS) Load Reduction Sizing Summary

Stormceptor Model	TSS Removal Provided (%)
EFO4	60
EFO5	63
EFO6	65
EFO8	68
EFO10	69
EFO12	70

Recommended Stormceptor EFO Model:	EFO4
Estimated Net Annual Sediment (TSS) Load Reduction (%):	60
Water Quality Runoff Volume Capture (%):	> 90

THIRD-PARTY TESTING AND VERIFICATION

► Stormceptor® EF and Stormceptor® EFO are the latest evolutions in the Stormceptor® oil-grit separator (OGS) technology series, and are designed to remove a wide variety of pollutants from stormwater and snowmelt runoff. These technologies have been third-party tested in accordance with the Canadian ETV Procedure for Laboratory Testing of Oil-Grit Separators and performance has been third-party verified in accordance with the ISO 14034 Environmental Technology Verification (ETV) protocol.

PERFORMANCE

► Stormceptor® EF and EFO remove stormwater pollutants through gravity separation and floatation, and feature a patent-pending design that generates positive removal of total suspended solids (TSS) throughout each storm event, including high-intensity storms. Captured pollutants include sediment, free oils, and sediment-bound pollutants such as nutrients, heavy metals, and petroleum hydrocarbons. Stormceptor is sized to remove a high level of TSS from the frequent rainfall events that contribute the vast majority of annual runoff volume and pollutant load. The technology incorporates an internal bypass to convey excessive stormwater flows from high-intensity storms through the device without resuspension and washout (scour) of previously captured pollutants. Proper routine maintenance ensures high pollutant removal performance and protection of downstream waterways.

PARTICLE SIZE DISTRIBUTION (PSD)

► The Canadian ETV PSD shown in the table below was used, or in part, for this sizing. This is the identical PSD that is referenced in the Canadian ETV Procedure for Laboratory Testing of Oil-Grit Separators for both sediment removal testing and scour testing. The Canadian ETV PSD contains a wide range of particle sizes in the sand and silt fractions, and is considered reasonably representative of the particle size fractions found in typical urban stormwater runoff.

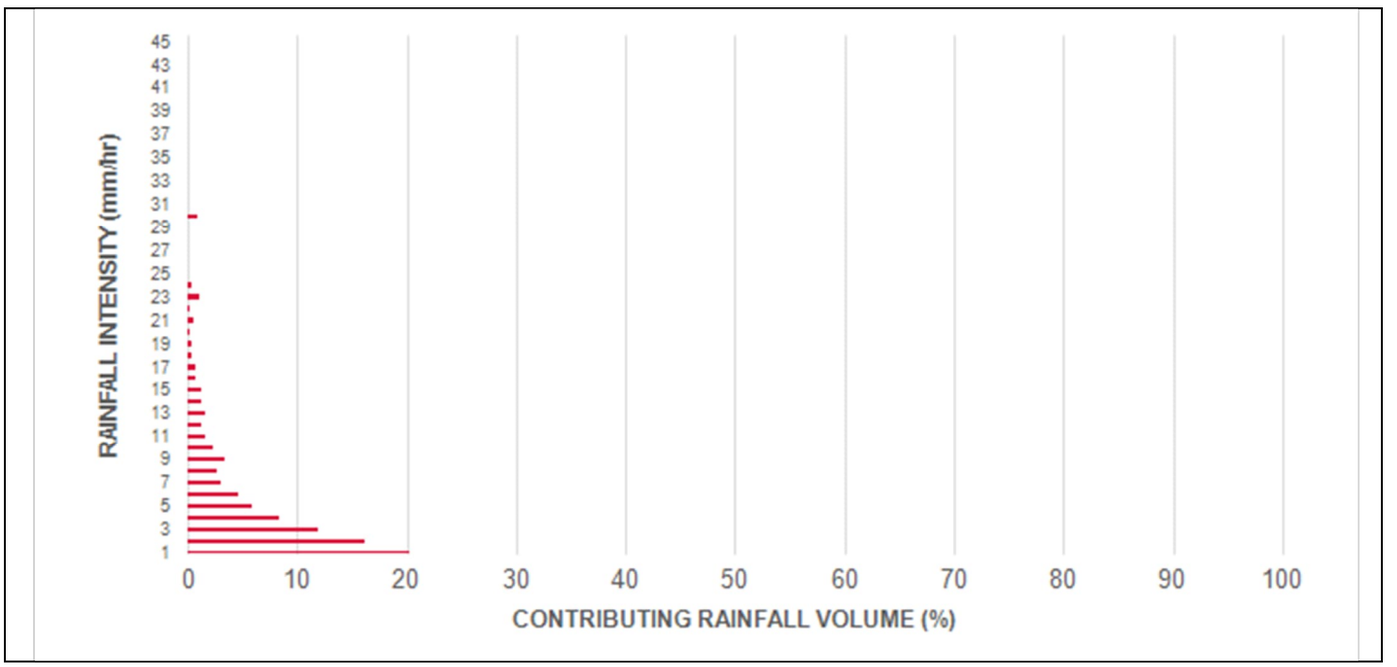
Particle Size (µm)	Percent Less Than	Particle Size Fraction (µm)	Percent
1000	100	500-1000	5
500	95	250-500	5
250	90	150-250	15
150	75	100-150	15
100	60	75-100	10
75	50	50-75	5
50	45	20-50	10
20	35	8-20	15
8	20	5-8	10
5	10	2-5	5
2	5	<2	5

Stormceptor® EF Sizing Report

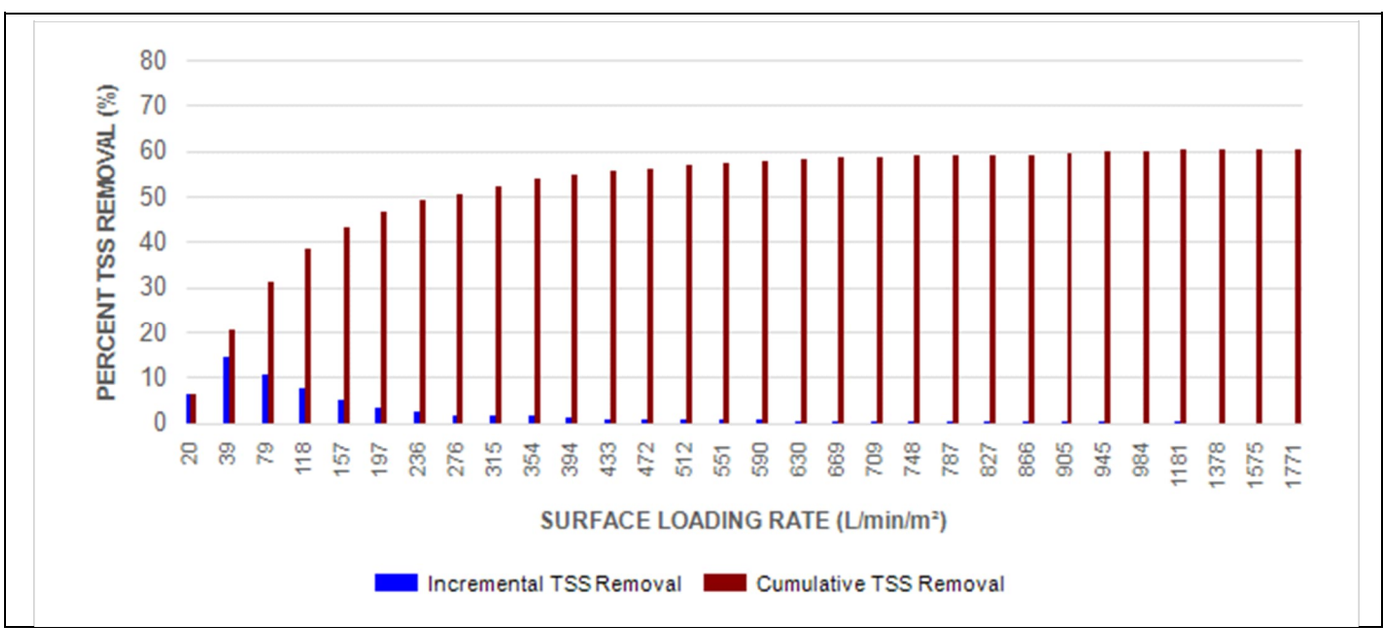
Rainfall Intensity (mm / hr)	Percent Rainfall Volume (%)	Cumulative Rainfall Volume (%)	Flow Rate (L/s)	Flow Rate (L/min)	Surface Loading Rate (L/min/m²)	Removal Efficiency (%)	Incremental Removal (%)	Cumulative Removal (%)
0.50	8.6	8.6	0.39	24.0	20.0	70	6.1	6.1
1.00	20.3	29.0	0.79	47.0	39.0	70	14.3	20.4
2.00	16.2	45.2	1.57	94.0	79.0	66	10.6	31.0
3.00	12.0	57.2	2.36	142.0	118.0	62	7.4	38.4
4.00	8.4	65.6	3.15	189.0	157.0	58	4.9	43.3
5.00	5.9	71.6	3.94	236.0	197.0	55	3.3	46.6
6.00	4.6	76.2	4.72	283.0	236.0	53	2.5	49.0
7.00	3.1	79.3	5.51	331.0	276.0	52	1.6	50.6
8.00	2.7	82.0	6.30	378.0	315.0	51	1.4	52.0
9.00	3.3	85.3	7.09	425.0	354.0	50	1.7	53.7
10.00	2.3	87.6	7.87	472.0	394.0	48	1.1	54.8
11.00	1.6	89.2	8.66	520.0	433.0	47	0.7	55.5
12.00	1.3	90.5	9.45	567.0	472.0	46	0.6	56.1
13.00	1.7	92.2	10.23	614.0	512.0	45	0.8	56.9
14.00	1.2	93.5	11.02	661.0	551.0	44	0.5	57.4
15.00	1.2	94.6	11.81	709.0	590.0	42	0.5	57.9
16.00	0.7	95.3	12.60	756.0	630.0	42	0.3	58.2
17.00	0.7	96.1	13.38	803.0	669.0	42	0.3	58.5
18.00	0.4	96.5	14.17	850.0	709.0	42	0.2	58.7
19.00	0.4	96.9	14.96	898.0	748.0	41	0.2	58.8
20.00	0.2	97.1	15.75	945.0	787.0	41	0.1	58.9
21.00	0.5	97.5	16.53	992.0	827.0	41	0.2	59.1
22.00	0.2	97.8	17.32	1039.0	866.0	41	0.1	59.2
23.00	1.0	98.8	18.11	1086.0	905.0	41	0.4	59.6
24.00	0.3	99.1	18.90	1134.0	945.0	40	0.1	59.7
25.00	0.0	99.1	19.68	1181.0	984.0	40	0.0	59.7
30.00	0.9	100.0	23.62	1417.0	1181.0	37	0.3	60.1
35.00	0.0	100.0	27.56	1653.0	1378.0	34	0.0	60.1
40.00	0.0	100.0	31.49	1890.0	1575.0	30	0.0	60.1
45.00	0.0	100.0	35.43	2126.0	1771.0	27	0.0	60.1
Estimated Net Annual Sediment (TSS) Load Reduction =								60 %

Climate Station ID: 6105978 *Years of Rainfall Data*: 20

RAINFALL DATA FROM OTTAWA CDA RCS RAINFALL STATION



INCREMENTAL AND CUMULATIVE TSS REMOVAL
FOR THE RECOMMENDED STORMCEPTOR® MODEL



Maximum Pipe Diameter / Peak Conveyance

Stormceptor EF / EFO	Model Diameter		Min Angle Inlet / Outlet Pipes	Max Inlet Pipe Diameter		Max Outlet Pipe Diameter		Peak Conveyance Flow Rate	
	(m)	(ft)		(mm)	(in)	(mm)	(in)	(L/s)	(cfs)
EF4 / EFO4	1.2	4	90	609	24	609	24	425	15
EF5 / EFO5	1.5	5	90	762	30	762	30	710	25
EF6 / EFO6	1.8	6	90	914	36	914	36	990	35
EF8 / EFO8	2.4	8	90	1219	48	1219	48	1700	60
EF10 / EFO10	3.0	10	90	1828	72	1828	72	2830	100
EF12 / EFO12	3.6	12	90	1828	72	1828	72	2830	100

SCOUR PREVENTION AND ONLINE CONFIGURATION

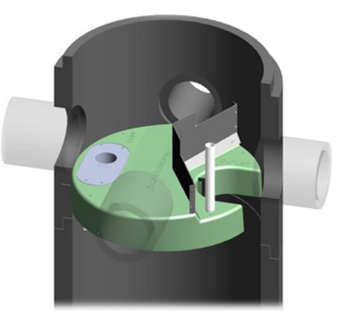
► Stormceptor® EF and EFO feature an internal bypass and superior scour prevention technology that have been demonstrated in third-party testing according to the scour testing provisions of the Canadian ETV Procedure for Laboratory Testing of Oil-Grit Separators, and the exceptional scour test performance has been third-party verified in accordance with the ISO 14034 ETV protocol. As a result, Stormceptor EF and EFO are approved for online installation, eliminating the need for costly additional bypass structures, piping, and installation expense.

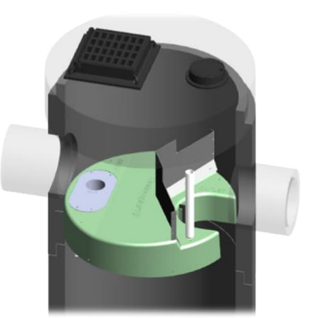
DESIGN FLEXIBILITY

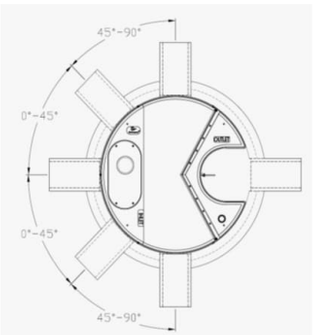
► Stormceptor® EF and EFO offers design flexibility in one simplified platform, accepting stormwater flow from a single inlet pipe or multiple inlet pipes, and/or surface runoff through an inlet grate. The device can also serve as a junction structure, accommodate a 90-degree inlet-to-outlet bend angle, and can be modified to ensure performance in submerged conditions.

OIL CAPTURE AND RETENTION

► While Stormceptor® EF will capture and retain oil from dry weather spills and low intensity runoff, Stormceptor® EFO has demonstrated superior oil capture and greater than 99% oil retention in third-party testing according to the light liquid re-entrainment testing provisions of the Canadian ETV Procedure for Laboratory Testing of Oil-Grit Separators. Stormceptor EFO is recommended for sites where oil capture and retention is a requirement.







INLET-TO-OUTLET DROP

Elevation differential between inlet and outlet pipe inverts is dictated by the angle at which the inlet pipe(s) enters the unit.

0° - 45° : The inlet pipe is 1-inch (25mm) higher than the outlet pipe.

45° - 90° : The inlet pipe is 2-inches (50mm) higher than the outlet pipe.

HEAD LOSS

The head loss through Stormceptor EF is similar to that of a 60-degree bend structure. The applicable K value for calculating minor losses through the unit is 1.1. For submerged conditions the applicable K value is 3.0.

Pollutant Capacity

Stormceptor EF / EFO	Model Diameter		Depth (Outlet Pipe Invert to Sump Floor)		Oil Volume		Recommended Sediment Maintenance Depth *		Maximum Sediment Volume *		Maximum Sediment Mass **	
	(m)	(ft)	(m)	(ft)	(L)	(Gal)	(mm)	(in)	(L)	(ft³)	(kg)	(lb)
EF4 / EFO4	1.2	4	1.52	5.0	265	70	203	8	1190	42	1904	5250
EF5 / EFO5	1.5	5	1.62	5.3	420	111	305	10	2124	75	2612	5758
EF6 / EFO6	1.8	6	1.93	6.3	610	160	305	12	3470	123	5552	15375
EF8 / EFO8	2.4	8	2.59	8.5	1070	280	610	24	8780	310	14048	38750
EF10 / EFO10	3.0	10	3.25	10.7	1670	440	610	24	17790	628	28464	78500
EF12 / EFO12	3.6	12	3.89	12.8	2475	655	610	24	31220	1103	49952	137875

* Increased sump depth may be added to increase sediment storage capacity

** Average density of wet packed sediment in sump = 1.6 kg/L (100 lb/ft³)

Feature	Benefit	Feature Appeals To
Patent-pending enhanced flow treatment and scour prevention technology	Superior, verified third-party performance	Regulator, Specifying & Design Engineer
Third-party verified light liquid capture and retention for EFO version	Proven performance for fuel/oil hotspot locations	Regulator, Specifying & Design Engineer, Site Owner
Functions as bend, junction or inlet structure	Design flexibility	Specifying & Design Engineer
Minimal drop between inlet and outlet	Site installation ease	Contractor
Large diameter outlet riser for inspection and maintenance	Easy maintenance access from grade	Maintenance Contractor & Site Owner

STANDARD STORMCEPTOR EF/ EFO DRAWINGS

For standard details, please visit http://www.imbriumsystems.com/stormwater-treatment-solutions/stormceptor-ef

STANDARD STORMCEPTOR EF/ EFO SPECIFICATION

For specifications, please visit http://www.imbriumsystems.com/stormwater-treatment-solutions/stormceptor-ef

imbrium

Table of TSS Removal vs Surface Loading Rate Based on Third-Party Test Results
Stormceptor® EFO

SLR (L/min/m²)	TSS % REMOVAL	SLR (L/min/m²)	TSS % REMOVAL	SLR (L/min/m²)	TSS % REMOVAL	SLR (L/min/m²)	TSS % REMOVAL
1	70	660	42	1320	35	1980	24
30	70	690	42	1350	35	2010	24
60	67	720	41	1380	34	2040	23
90	63	750	41	1410	34	2070	23
120	61	780	41	1440	33	2100	23
150	58	810	41	1470	32	2130	22
180	56	840	41	1500	32	2160	22
210	54	870	41	1530	31	2190	22
240	53	900	41	1560	31	2220	21
270	52	930	40	1590	30	2250	21
300	51	960	40	1620	29	2280	21
330	50	990	40	1650	29	2310	21
360	49	1020	40	1680	28	2340	20
390	48	1050	39	1710	28	2370	20
420	47	1080	39	1740	27	2400	20
450	47	1110	38	1770	27	2430	20
480	46	1140	38	1800	26	2460	19
510	45	1170	37	1830	26	2490	19
540	44	1200	37	1860	26	2520	19
570	43	1230	37	1890	25	2550	19
600	42	1260	36	1920	25	2580	18
630	42	1290	36	1950	24	2600	26

STANDARD PERFORMANCE SPECIFICATION FOR "OIL GRIT SEPARATOR" (OGS) STORMWATER QUALITY TREAMENT DEVICE

PART 1 – GENERAL

1.1 WORK INCLUDED

This section specifies requirements for selecting, sizing, and designing an underground Oil Grit Separator (OGS) device for stormwater quality treatment, with third-party testing results and a Statement of Verification in accordance with ISO 14034 Environmental Management – Environmental Technology Verification (ETV).

1.2 REFERENCE STANDARDS & PROCEDURES

ISO 14034:2016 Environmental management – Environmental technology verification (ETV)

Canadian Environmental Technology Verification (ETV) Program's **Procedure for Laboratory Testing of Oil-Grit Separators**

1.3 SUBMITTALS

1.3.1 All submittals, including sizing reports & shop drawings, shall be submitted upon request with each order to the contractor then forwarded to the Engineer of Record for review and acceptance. Shop drawings shall detail all OGS components, elevations, and sequence of construction.

1.3.2 Alternative devices shall have features identical to or greater than the specified device, including: treatment chamber diameter, treatment chamber wet volume, sediment storage volume, and oil storage volume.

1.3.3 Unless directed otherwise by the Engineer of Record, OGS stormwater quality treatment product substitutions or alternatives submitted within ten days prior to project bid shall not be accepted. All alternatives or substitutions submitted shall be signed and sealed by a local registered Professional Engineer, based on the exact same criteria detailed in Section 3, in entirety, subject to review and approval by the Engineer of Record.

PART 2 – PRODUCTS

2.1 OGS POLLUTANT STORAGE

The OGS device shall include a sump for sediment storage, and a protected volume for the capture and storage of petroleum hydrocarbons and buoyant gross pollutants. The minimum sediment & petroleum hydrocarbon storage capacity shall be as follows:

2.1.1	4 ft (1219 mm) Diameter OGS Units:	1.19 m^3 sediment / 265 L oil
	5 ft (1524 mm) Diameter OGS Units:	1.95 m^3 sediment / 420 L oil
	6 ft (1829 mm) Diameter OGS Units:	3.48 m^3 sediment / 609 L oil
	8 ft (2438 mm) Diameter OGS Units:	8.78 m^3 sediment / 1,071 L oil
	10 ft (3048 mm) Diameter OGS Units:	17.78 m^3 sediment / 1,673 L oil
	12 ft (3657 mm) Diameter OGS Units:	31.23 m^3 sediment / 2,476 L oil

PART 3 – PERFORMANCE & DESIGN

3.1 GENERAL

The OGS stormwater quality treatment device shall be verified in accordance with ISO 14034:2016 Environmental management – Environmental technology verification (ETV). The OGS stormwater quality treatment device shall

remove oil, sediment and gross pollutants from stormwater runoff during frequent wet weather events, and retain these pollutants during less frequent high flow wet weather events below the insert within the OGS for later removal during maintenance. The Manufacturer shall have at least ten (10) years of local experience, history and success in engineering design, manufacturing and production and supply of OGS stormwater quality treatment device systems, acceptable to the Engineer of Record.

3.2 SIZING METHODOLOGY

The OGS device shall be engineered, designed and sized to provide stormwater quality treatment based on treating a minimum of 90 percent of the average annual runoff volume and a minimum removal of an annual average 60% of the sediment (TSS) load based on the Particle Size Distribution (PSD) specified in the sizing report for the specified device. Sizing of the OGS shall be determined by use of a minimum ten (10) years of local historical rainfall data provided by Environment Canada. Sizing shall also be determined by use of the sediment removal performance data derived from the ISO 14034 ETV third-party verified laboratory testing data from testing conducted in accordance with the Canadian ETV protocol Procedure for Laboratory Testing of Oil-Grit Separators, as follows:

3.2.1 Sediment removal efficiency for a given surface loading rate and its associated flow rate shall be based on sediment removal efficiency demonstrated at the seven (7) tested surface loading rates specified in the protocol, ranging 40 L/min/m^2 to 1400 L/min/m^2, and as stated in the ISO 14034 ETV Verification Statement for the OGS device.

3.2.2 Sediment removal efficiency for surface loading rates between 40 L/min/m^2 and 1400 L/min/m^2 shall be based on linear interpolation of data between consecutive tested surface loading rates.

3.2.3 Sediment removal efficiency for surface loading rates less than the lowest tested surface loading rate of 40 L/min/m^2 shall be assumed to be identical to the sediment removal efficiency at 40 L/min/m^2. No extrapolation shall be allowed that results in a sediment removal efficiency that is greater than that demonstrated at 40 L/min/m^2.

3.2.4 Sediment removal efficiency for surface loading rates greater than the highest tested surface loading rate of 1400 L/min/m^2 shall assume zero sediment removal for the portion of flow that exceeds 1400 L/min/m^2, and shall be calculated using a simple proportioning formula, with 1400 L/min/m^2 in the numerator and the higher surface loading rate in the denominator, and multiplying the resulting fraction times the sediment removal efficiency at 1400 L/min/m^2.

The OGS device shall also have sufficient annual sediment storage capacity as specified and calculated in Section 2.1.

3.3 CANADIAN ETV or ISO 14034 ETV VERIFICATION OF SCOUR TESTING

The OGS device shall have Canadian ETV or ISO 14034 ETV Verification of third-party scour testing conducted in accordance with the Canadian ETV Program's **Procedure for Laboratory Testing of Oil-Grit Separators.**

3.3.1 To be acceptable for on-line installation, the OGS device must demonstrate an average scour test effluent concentration less than 10 mg/L at each surface loading rate tested, up to and including 2600 L/min/m^2.

3.4 LIGHT LIQUID RE-ENTRAINMENT SIMULATION TESTING

The OGS device shall have Canadian ETV or ISO 14034 ETV Verification of completed third-party Light Liquid Re-entrainment Simulation Testing in accordance with the Canadian ETV **Program's Procedure for Laboratory Testing of Oil-Grit Separators,** with results reported within the Canadian ETV or ISO 14034 ETV verification. This re-entrainment testing is conducted with the device pre-loaded with low density polyethylene (LDPE) plastic beads as a surrogate for light liquids such as oil and fuel. Testing is conducted on the same OGS unit tested for sediment removal to assess whether light liquids captured after a spill are effectively retained at high flow rates.

3.4.1 For an OGS device to be an acceptable stormwater treatment device on a site where vehicular traffic occurs and the potential for an oil or fuel spill exists, the OGS device must have reported verified performance results of greater than 99% cumulative retention of LDPE plastic beads for the five specified surface loading rates (ranging 200 L/min/m^2 to 2600 L/min/m^2) in accordance with the Light Liquid Re-entrainment Simulation Testing within the Canadian ETV Program's **Procedure for Laboratory Testing of Oil-Grit Separators.** However, an OGS device shall not be allowed if the Light Liquid Re-entrainment Simulation Testing was performed with screening components within the OGS device that are effective at retaining the LDPE plastic beads, but would not be expected to retain light liquids such as oil and fuel.

Stormceptor® EF Sizing Report

Imbrium® Systems
ESTIMATED NET ANNUAL SEDIMENT (TSS) LOAD REDUCTION

08/14/2025

Province:	Ontario
City:	Ottawa
Nearest Rainfall Station:	OTTAWA CDA RCS
Climate Station Id:	6105978
Years of Rainfall Data:	20

Site Name:	Phase 2

Drainage Area (ha):	0.45
Runoff Coefficient 'c':	0.60

Particle Size Distribution:	CA ETV
Target TSS Removal (%):	60.0

Required Water Quality Runoff Volume Capture (%):	90.00
Estimated Water Quality Flow Rate (L/s):	8.71
Oil / Fuel Spill Risk Site?	Yes
Upstream Flow Control?	No
Peak Conveyance (maximum) Flow Rate (L/s):	18.00
Influent TSS Concentration (mg/L):	200
Estimated Average Annual Sediment Load (kg/yr):	184
Estimated Average Annual Sediment Volume (L/yr):	149

Project Name:	5923 Ottawa St. (Distillery and Warehouse)
Project Number:	CC0-25-0415
Designer Name:	Jessica Steffler
Designer Company:	Forterra Pipe & Precast
Designer Email:	jessica.steffler@RinkerPipe.com
Designer Phone:	519-239-6958
EOR Name:	Francis VALENTI
EOR Company:	EGIS
EOR Email:	Francis.VALENTI@egis-group.com
EOR Phone:	613-714-6895

Net Annual Sediment (TSS) Load Reduction Sizing Summary

Stormceptor Model	TSS Removal Provided (%)
EFO4	60
EFO5	63
EFO6	66
EFO8	68
EFO10	69
EFO12	70

Recommended Stormceptor EFO Model:	EFO4
Estimated Net Annual Sediment (TSS) Load Reduction (%):	60
Water Quality Runoff Volume Capture (%):	> 90

THIRD-PARTY TESTING AND VERIFICATION

► Stormceptor® EF and Stormceptor® EFO are the latest evolutions in the Stormceptor® oil-grit separator (OGS) technology series, and are designed to remove a wide variety of pollutants from stormwater and snowmelt runoff. These technologies have been third-party tested in accordance with the Canadian ETV Procedure for Laboratory Testing of Oil-Grit Separators and performance has been third-party verified in accordance with the ISO 14034 Environmental Technology Verification (ETV) protocol.

PERFORMANCE

► Stormceptor® EF and EFO remove stormwater pollutants through gravity separation and floatation, and feature a patent-pending design that generates positive removal of total suspended solids (TSS) throughout each storm event, including high-intensity storms. Captured pollutants include sediment, free oils, and sediment-bound pollutants such as nutrients, heavy metals, and petroleum hydrocarbons. Stormceptor is sized to remove a high level of TSS from the frequent rainfall events that contribute the vast majority of annual runoff volume and pollutant load. The technology incorporates an internal bypass to convey excessive stormwater flows from high-intensity storms through the device without resuspension and washout (scour) of previously captured pollutants. Proper routine maintenance ensures high pollutant removal performance and protection of downstream waterways.

PARTICLE SIZE DISTRIBUTION (PSD)

► The Canadian ETV PSD shown in the table below was used, or in part, for this sizing. This is the identical PSD that is referenced in the Canadian ETV Procedure for Laboratory Testing of Oil-Grit Separators for both sediment removal testing and scour testing. The Canadian ETV PSD contains a wide range of particle sizes in the sand and silt fractions, and is considered reasonably representative of the particle size fractions found in typical urban stormwater runoff.

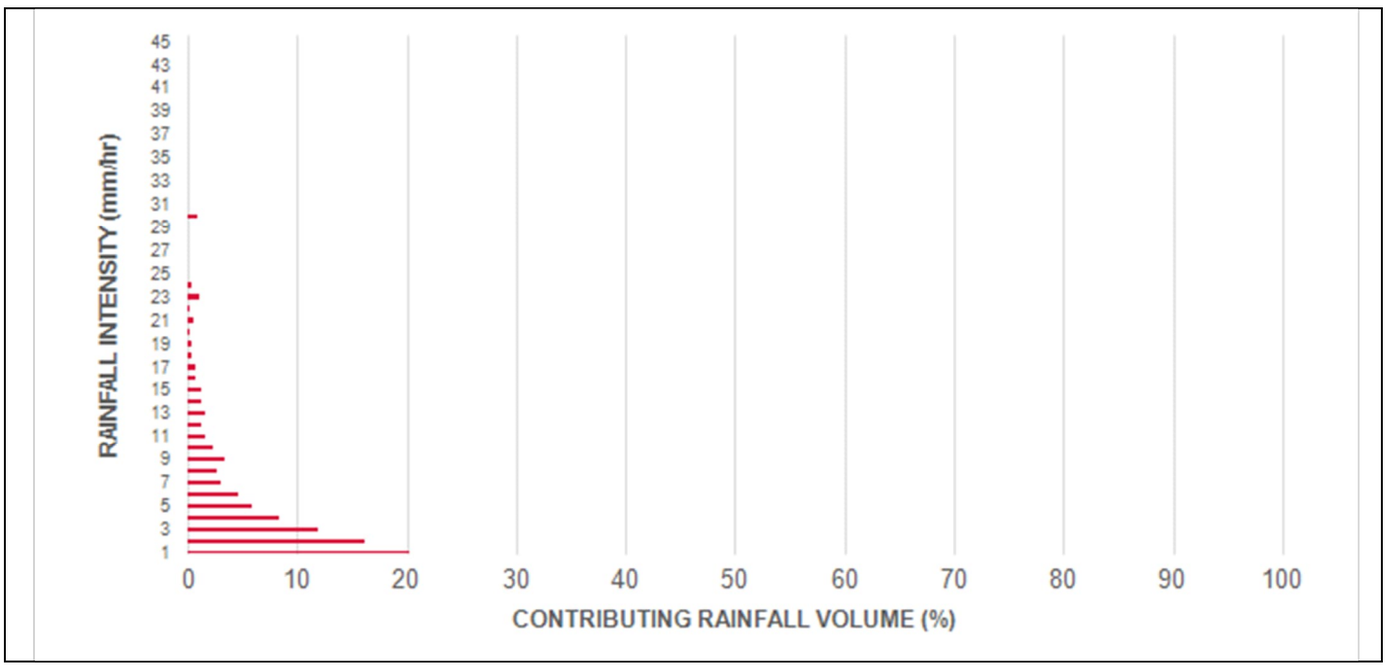
Particle Size (µm)	Percent Less Than	Particle Size Fraction (µm)	Percent
1000	100	500-1000	5
500	95	250-500	5
250	90	150-250	15
150	75	100-150	15
100	60	75-100	10
75	50	50-75	5
50	45	20-50	10
20	35	8-20	15
8	20	5-8	10
5	10	2-5	5
2	5	<2	5

Stormceptor® EF Sizing Report

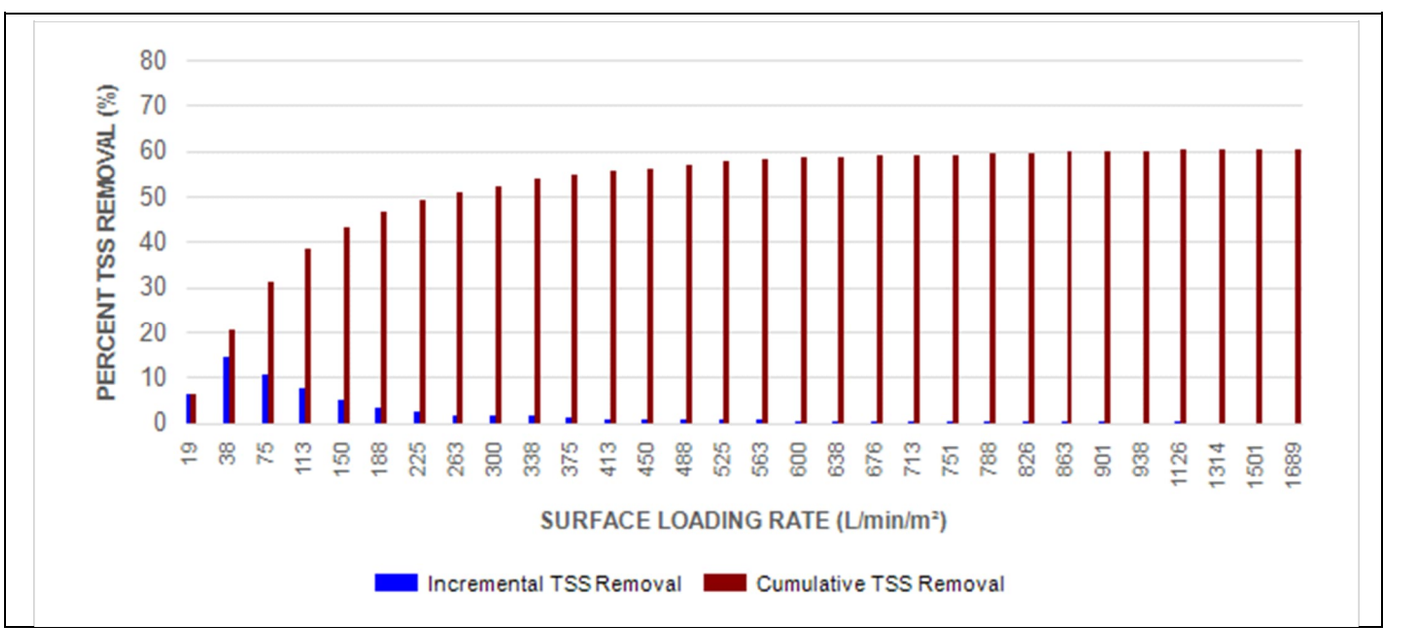
Rainfall Intensity (mm / hr)	Percent Rainfall Volume (%)	Cumulative Rainfall Volume (%)	Flow Rate (L/s)	Flow Rate (L/min)	Surface Loading Rate (L/min/m²)	Removal Efficiency (%)	Incremental Removal (%)	Cumulative Removal (%)
0.50	8.6	8.6	0.38	23.0	19.0	70	6.1	6.1
1.00	20.3	29.0	0.75	45.0	38.0	70	14.3	20.4
2.00	16.2	45.2	1.50	90.0	75.0	66	10.6	31.0
3.00	12.0	57.2	2.25	135.0	113.0	62	7.4	38.4
4.00	8.4	65.6	3.00	180.0	150.0	58	4.9	43.3
5.00	5.9	71.6	3.75	225.0	188.0	56	3.3	46.6
6.00	4.6	76.2	4.50	270.0	225.0	53	2.5	49.1
7.00	3.1	79.3	5.25	315.0	263.0	52	1.6	50.7
8.00	2.7	82.0	6.00	360.0	300.0	51	1.4	52.1
9.00	3.3	85.3	6.76	405.0	338.0	50	1.7	53.8
10.00	2.3	87.6	7.51	450.0	375.0	49	1.1	54.9
11.00	1.6	89.2	8.26	495.0	413.0	48	0.7	55.6
12.00	1.3	90.5	9.01	540.0	450.0	47	0.6	56.2
13.00	1.7	92.2	9.76	585.0	488.0	46	0.8	57.0
14.00	1.2	93.5	10.51	631.0	525.0	44	0.5	57.6
15.00	1.2	94.6	11.26	676.0	563.0	43	0.5	58.1
16.00	0.7	95.3	12.01	721.0	600.0	42	0.3	58.4
17.00	0.7	96.1	12.76	766.0	638.0	42	0.3	58.7
18.00	0.4	96.5	13.51	811.0	676.0	42	0.2	58.8
19.00	0.4	96.9	14.26	856.0	713.0	41	0.2	59.0
20.00	0.2	97.1	15.01	901.0	751.0	41	0.1	59.1
21.00	0.5	97.5	15.76	946.0	788.0	41	0.2	59.3
22.00	0.2	97.8	16.51	991.0	826.0	41	0.1	59.4
23.00	1.0	98.8	17.26	1036.0	863.0	41	0.4	59.8
24.00	0.3	99.1	18.01	1081.0	901.0	41	0.1	59.9
25.00	0.0	99.1	18.77	1126.0	938.0	40	0.0	59.9
30.00	0.9	100.0	22.52	1351.0	1126.0	38	0.4	60.3
35.00	0.0	100.0	26.27	1576.0	1314.0	35	0.0	60.3
40.00	0.0	100.0	30.02	1801.0	1501.0	32	0.0	60.3
45.00	0.0	100.0	33.78	2027.0	1689.0	28	0.0	60.3
Estimated Net Annual Sediment (TSS) Load Reduction =								60 %

Climate Station ID: 6105978 *Years of Rainfall Data*: 20

RAINFALL DATA FROM OTTAWA CDA RCS RAINFALL STATION



INCREMENTAL AND CUMULATIVE TSS REMOVAL
FOR THE RECOMMENDED STORMCEPTOR® MODEL



Maximum Pipe Diameter / Peak Conveyance

Stormceptor EF / EFO	Model Diameter		Min Angle Inlet / Outlet Pipes	Max Inlet Pipe Diameter		Max Outlet Pipe Diameter		Peak Conveyance Flow Rate	
	(m)	(ft)		(mm)	(in)	(mm)	(in)	(L/s)	(cfs)
EF4 / EFO4	1.2	4	90	609	24	609	24	425	15
EF5 / EFO5	1.5	5	90	762	30	762	30	710	25
EF6 / EFO6	1.8	6	90	914	36	914	36	990	35
EF8 / EFO8	2.4	8	90	1219	48	1219	48	1700	60
EF10 / EFO10	3.0	10	90	1828	72	1828	72	2830	100
EF12 / EFO12	3.6	12	90	1828	72	1828	72	2830	100

SCOUR PREVENTION AND ONLINE CONFIGURATION

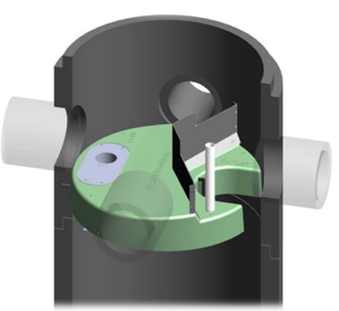
► Stormceptor® EF and EFO feature an internal bypass and superior scour prevention technology that have been demonstrated in third-party testing according to the scour testing provisions of the Canadian ETV Procedure for Laboratory Testing of Oil-Grit Separators, and the exceptional scour test performance has been third-party verified in accordance with the ISO 14034 ETV protocol. As a result, Stormceptor EF and EFO are approved for online installation, eliminating the need for costly additional bypass structures, piping, and installation expense.

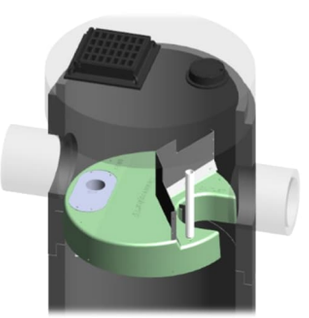
DESIGN FLEXIBILITY

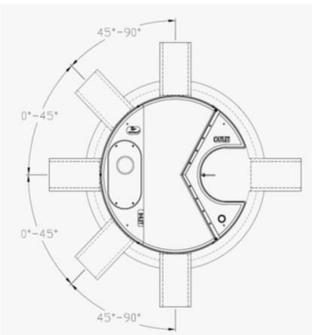
► Stormceptor® EF and EFO offers design flexibility in one simplified platform, accepting stormwater flow from a single inlet pipe or multiple inlet pipes, and/or surface runoff through an inlet grate. The device can also serve as a junction structure, accommodate a 90-degree inlet-to-outlet bend angle, and can be modified to ensure performance in submerged conditions.

OIL CAPTURE AND RETENTION

► While Stormceptor® EF will capture and retain oil from dry weather spills and low intensity runoff, Stormceptor® EFO has demonstrated superior oil capture and greater than 99% oil retention in third-party testing according to the light liquid re-entrainment testing provisions of the Canadian ETV Procedure for Laboratory Testing of Oil-Grit Separators. Stormceptor EFO is recommended for sites where oil capture and retention is a requirement.







INLET-TO-OUTLET DROP

Elevation differential between inlet and outlet pipe inverts is dictated by the angle at which the inlet pipe(s) enters the unit.

0° - 45° : The inlet pipe is 1-inch (25mm) higher than the outlet pipe.

45° - 90° : The inlet pipe is 2-inches (50mm) higher than the outlet pipe.

HEAD LOSS

The head loss through Stormceptor EF is similar to that of a 60-degree bend structure. The applicable K value for calculating minor losses through the unit is 1.1. For submerged conditions the applicable K value is 3.0.

Pollutant Capacity

Stormceptor EF / EFO	Model Diameter		Depth (Outlet Pipe Invert to Sump Floor)		Oil Volume		Recommended Sediment Maintenance Depth *		Maximum Sediment Volume *		Maximum Sediment Mass **	
	(m)	(ft)	(m)	(ft)	(L)	(Gal)	(mm)	(in)	(L)	(ft³)	(kg)	(lb)
EF4 / EFO4	1.2	4	1.52	5.0	265	70	203	8	1190	42	1904	5250
EF5 / EFO5	1.5	5	1.62	5.3	420	111	305	10	2124	75	2612	5758
EF6 / EFO6	1.8	6	1.93	6.3	610	160	305	12	3470	123	5552	15375
EF8 / EFO8	2.4	8	2.59	8.5	1070	280	610	24	8780	310	14048	38750
EF10 / EFO10	3.0	10	3.25	10.7	1670	440	610	24	17790	628	28464	78500
EF12 / EFO12	3.6	12	3.89	12.8	2475	655	610	24	31220	1103	49952	137875

* Increased sump depth may be added to increase sediment storage capacity

** Average density of wet packed sediment in sump = 1.6 kg/L (100 lb/ft³)

Feature	Benefit	Feature Appeals To
Patent-pending enhanced flow treatment and scour prevention technology	Superior, verified third-party performance	Regulator, Specifying & Design Engineer
Third-party verified light liquid capture and retention for EFO version	Proven performance for fuel/oil hotspot locations	Regulator, Specifying & Design Engineer, Site Owner
Functions as bend, junction or inlet structure	Design flexibility	Specifying & Design Engineer
Minimal drop between inlet and outlet	Site installation ease	Contractor
Large diameter outlet riser for inspection and maintenance	Easy maintenance access from grade	Maintenance Contractor & Site Owner

STANDARD STORMCEPTOR EF/ EFO DRAWINGS

For standard details, please visit http://www.imbriumsystems.com/stormwater-treatment-solutions/stormceptor-ef

STANDARD STORMCEPTOR EF/ EFO SPECIFICATION

For specifications, please visit http://www.imbriumsystems.com/stormwater-treatment-solutions/stormceptor-ef

imbrium

Table of TSS Removal vs Surface Loading Rate Based on Third-Party Test Results
Stormceptor® EFO

SLR (L/min/m²)	TSS % REMOVAL	SLR (L/min/m²)	TSS % REMOVAL	SLR (L/min/m²)	TSS % REMOVAL	SLR (L/min/m²)	TSS % REMOVAL
1	70	660	42	1320	35	1980	24
30	70	690	42	1350	35	2010	24
60	67	720	41	1380	34	2040	23
90	63	750	41	1410	34	2070	23
120	61	780	41	1440	33	2100	23
150	58	810	41	1470	32	2130	22
180	56	840	41	1500	32	2160	22
210	54	870	41	1530	31	2190	22
240	53	900	41	1560	31	2220	21
270	52	930	40	1590	30	2250	21
300	51	960	40	1620	29	2280	21
330	50	990	40	1650	29	2310	21
360	49	1020	40	1680	28	2340	20
390	48	1050	39	1710	28	2370	20
420	47	1080	39	1740	27	2400	20
450	47	1110	38	1770	27	2430	20
480	46	1140	38	1800	26	2460	19
510	45	1170	37	1830	26	2490	19
540	44	1200	37	1860	26	2520	19
570	43	1230	37	1890	25	2550	19
600	42	1260	36	1920	25	2580	18
630	42	1290	36	1950	24	2600	26

STANDARD PERFORMANCE SPECIFICATION FOR "OIL GRIT SEPARATOR" (OGS) STORMWATER QUALITY TREAMENT DEVICE

PART 1 – GENERAL

1.1 WORK INCLUDED

This section specifies requirements for selecting, sizing, and designing an underground Oil Grit Separator (OGS) device for stormwater quality treatment, with third-party testing results and a Statement of Verification in accordance with ISO 14034 Environmental Management – Environmental Technology Verification (ETV).

1.2 REFERENCE STANDARDS & PROCEDURES

ISO 14034:2016 Environmental management – Environmental technology verification (ETV)

Canadian Environmental Technology Verification (ETV) Program's **Procedure for Laboratory Testing of Oil-Grit Separators**

1.3 SUBMITTALS

1.3.1 All submittals, including sizing reports & shop drawings, shall be submitted upon request with each order to the contractor then forwarded to the Engineer of Record for review and acceptance. Shop drawings shall detail all OGS components, elevations, and sequence of construction.

1.3.2 Alternative devices shall have features identical to or greater than the specified device, including: treatment chamber diameter, treatment chamber wet volume, sediment storage volume, and oil storage volume.

1.3.3 Unless directed otherwise by the Engineer of Record, OGS stormwater quality treatment product substitutions or alternatives submitted within ten days prior to project bid shall not be accepted. All alternatives or substitutions submitted shall be signed and sealed by a local registered Professional Engineer, based on the exact same criteria detailed in Section 3, in entirety, subject to review and approval by the Engineer of Record.

PART 2 – PRODUCTS

2.1 OGS POLLUTANT STORAGE

The OGS device shall include a sump for sediment storage, and a protected volume for the capture and storage of petroleum hydrocarbons and buoyant gross pollutants. The minimum sediment & petroleum hydrocarbon storage capacity shall be as follows:

2.1.1	4 ft (1219 mm) Diameter OGS Units:	1.19 m^3 sediment / 265 L oil
	5 ft (1524 mm) Diameter OGS Units:	1.95 m^3 sediment / 420 L oil
	6 ft (1829 mm) Diameter OGS Units:	3.48 m^3 sediment / 609 L oil
	8 ft (2438 mm) Diameter OGS Units:	8.78 m^3 sediment / 1,071 L oil
	10 ft (3048 mm) Diameter OGS Units:	17.78 m^3 sediment / 1,673 L oil
	12 ft (3657 mm) Diameter OGS Units:	31.23 m^3 sediment / 2,476 L oil

PART 3 – PERFORMANCE & DESIGN

3.1 GENERAL

The OGS stormwater quality treatment device shall be verified in accordance with ISO 14034:2016 Environmental management – Environmental technology verification (ETV). The OGS stormwater quality treatment device shall

remove oil, sediment and gross pollutants from stormwater runoff during frequent wet weather events, and retain these pollutants during less frequent high flow wet weather events below the insert within the OGS for later removal during maintenance. The Manufacturer shall have at least ten (10) years of local experience, history and success in engineering design, manufacturing and production and supply of OGS stormwater quality treatment device systems, acceptable to the Engineer of Record.

3.2 SIZING METHODOLOGY

The OGS device shall be engineered, designed and sized to provide stormwater quality treatment based on treating a minimum of 90 percent of the average annual runoff volume and a minimum removal of an annual average 60% of the sediment (TSS) load based on the Particle Size Distribution (PSD) specified in the sizing report for the specified device. Sizing of the OGS shall be determined by use of a minimum ten (10) years of local historical rainfall data provided by Environment Canada. Sizing shall also be determined by use of the sediment removal performance data derived from the ISO 14034 ETV third-party verified laboratory testing data from testing conducted in accordance with the Canadian ETV protocol Procedure for Laboratory Testing of Oil-Grit Separators, as follows:

3.2.1 Sediment removal efficiency for a given surface loading rate and its associated flow rate shall be based on sediment removal efficiency demonstrated at the seven (7) tested surface loading rates specified in the protocol, ranging 40 L/min/m^2 to 1400 L/min/m^2, and as stated in the ISO 14034 ETV Verification Statement for the OGS device.

3.2.2 Sediment removal efficiency for surface loading rates between 40 L/min/m^2 and 1400 L/min/m^2 shall be based on linear interpolation of data between consecutive tested surface loading rates.

3.2.3 Sediment removal efficiency for surface loading rates less than the lowest tested surface loading rate of 40 L/min/m^2 shall be assumed to be identical to the sediment removal efficiency at 40 L/min/m^2. No extrapolation shall be allowed that results in a sediment removal efficiency that is greater than that demonstrated at 40 L/min/m^2.

3.2.4 Sediment removal efficiency for surface loading rates greater than the highest tested surface loading rate of 1400 L/min/m^2 shall assume zero sediment removal for the portion of flow that exceeds 1400 L/min/m^2, and shall be calculated using a simple proportioning formula, with 1400 L/min/m^2 in the numerator and the higher surface loading rate in the denominator, and multiplying the resulting fraction times the sediment removal efficiency at 1400 L/min/m^2.

The OGS device shall also have sufficient annual sediment storage capacity as specified and calculated in Section 2.1.

3.3 CANADIAN ETV or ISO 14034 ETV VERIFICATION OF SCOUR TESTING

The OGS device shall have Canadian ETV or ISO 14034 ETV Verification of third-party scour testing conducted in accordance with the Canadian ETV Program's **Procedure for Laboratory Testing of Oil-Grit Separators.**

3.3.1 To be acceptable for on-line installation, the OGS device must demonstrate an average scour test effluent concentration less than 10 mg/L at each surface loading rate tested, up to and including 2600 L/min/m^2.

3.4 LIGHT LIQUID RE-ENTRAINMENT SIMULATION TESTING

The OGS device shall have Canadian ETV or ISO 14034 ETV Verification of completed third-party Light Liquid Re-entrainment Simulation Testing in accordance with the Canadian ETV **Program's Procedure for Laboratory Testing of Oil-Grit Separators,** with results reported within the Canadian ETV or ISO 14034 ETV verification. This re-entrainment testing is conducted with the device pre-loaded with low density polyethylene (LDPE) plastic beads as a surrogate for light liquids such as oil and fuel. Testing is conducted on the same OGS unit tested for sediment removal to assess whether light liquids captured after a spill are effectively retained at high flow rates.

3.4.1 For an OGS device to be an acceptable stormwater treatment device on a site where vehicular traffic occurs and the potential for an oil or fuel spill exists, the OGS device must have reported verified performance results of greater than 99% cumulative retention of LDPE plastic beads for the five specified surface loading rates (ranging 200 L/min/m^2 to 2600 L/min/m^2) in accordance with the Light Liquid Re-entrainment Simulation Testing within the Canadian ETV Program's **Procedure for Laboratory Testing of Oil-Grit Separators.** However, an OGS device shall not be allowed if the Light Liquid Re-entrainment Simulation Testing was performed with screening components within the OGS device that are effective at retaining the LDPE plastic beads, but would not be expected to retain light liquids such as oil and fuel.

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September 11, 2025 Project Number: P2710(e01)

Stratford Foxrun
6286 Prince of Wales Drive
North Gower, ON
K0A 2T0

Attention: **Joshua Laginski, P.Eng**

Subject: **Stratford Foxrun Development- 5923 Ottawa Street, Richmond Ditch Hydrologic and Hydraulic Analysis**

RATIONALE FOR UPDATE

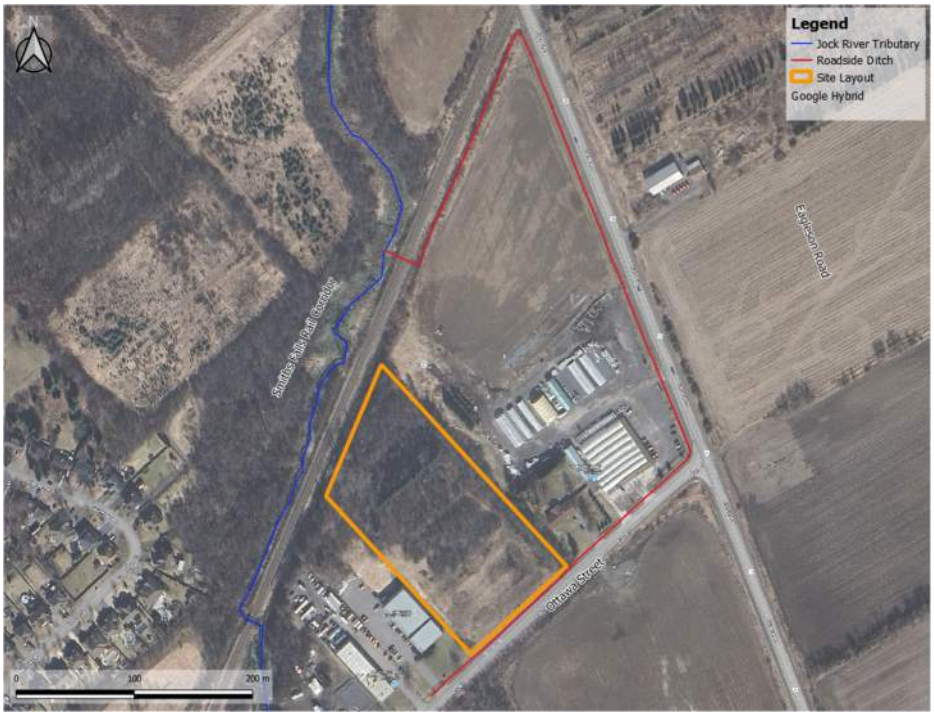
The following memo has been revised to address comments received from the City of Ottawa on July 3, 2025, titled "*Feedback Form – Completeness Review #1 Site Plan Control 5923 Ottawa Street".* Updates in this memo include refinements to the site grading and stormwater management design, as well as the incorporation of additional calculations and supporting text for justification of selected model parameters, as requested by the city review comments provided. These updates ensure consistency with the latest design information and compliance with applicable City of Ottawa guidelines.

OVERVIEW

Egis Group has commissioned JFSA Canada Inc. to develop detailed hydrologic and hydraulic models for the proposed Stratford Foxrun development. This development, located at 5923 Ottawa Street in Richmond, Ontario, will include local depressions within the site that will act as stormwater management controls to mitigate increases in peak flows resulting from the development. The site will outlet into an existing roadside ditch on Ottawa Street before proceeding east to Eagleson Road and then turning north towards the rail corridor before finally discharging into Marlborough Creek, which is a tributary of the Jock River.

This memo presents a downstream hydrologic and hydraulic analysis of the aforementioned roadside ditch, specifically quantifying its capacity from 5923 Ottawa Street to the Marlborough Creek. **Figure 1** illustrates the development's location and extent, as well as the road site ditch relative to its outlet at Marlborough Creek.

Figure 1:Site Boundary and Existing Watercourse



HYDROLOGY

Existing Conditions

Drainage Areas

Existing drainage areas for this study were delineated using a comprehensive Digital Terrain Model (DTM). This DTM was developed from two primary sources: LiDAR data, obtained from the LIO (Land Information Ontario) Digital Terrain Model and flown in 2019-2020, and a detailed topographic survey of the existing ditch and associated crossings completed by Egis in January 2025. This combined data was then imported into GIS software. Watershed delineation algorithms were subsequently applied to the DTM to automatically define the drainage areas. These automated delineations were manually reviewed against relevant previous studies and existing drainage delineations for accuracy and consistency. **Figure A1 in Attachment A** provides a visual overview of the existing drainage areas within the study area.

Land Use

Land use data has been taken from Land Information Ontario's (LIO) Land Use Data and then discretized based on the respective subcatchments. **Figure A2 in Attachment** A provides a visual overview of the respective land use data for each of the subcatchments within the study area.

Soil/Infiltration Data

Soil data within the study area has been taken from the Soil Survey Complex Data available on Land Information Ontario (LIO). **Figure A3 in Attachment** A provides a visual overview of the respective soil type data for each of the subcatchments within the study area. A full breakdown of the soil data for each drainage area has also been provided in **Table A1 in Attachment A**.

Curve Number (CN)

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 a given subcatchment to determine the weighted CN for that subcatchment. The CN values calculated were then converted to CN*. Note that the traditional CN procedure assumes that Initial Abstraction (IA) = 0.2S. However, the traditional CN method is subject to errors because of this assumption, particularly for smaller rainfall events. Instead, it is recommended that a modified CN* and a user-defined IA value be used for SWMHYMO modelling. Modified 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). The CN values derived were converted to CN* based on the formula provided in the November 2002 Runoff Curve Number Method: Examination of the Initial Abstract Ratio paper, and applied to the hydrologic model.

$$CN^* = \frac{100}{1.879\left[\frac{100}{CN-1}\right]^{1.15} + 1}$$

Table A1 in Attachment provides a full summary of the CN/CN* calculations for each of the predevelopment subcatchments.

Time to Peak (t_p)

For natural areas within the study area, the time to peak values for each of the subcatchments 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 each subcatchment has been identified; refer to Figure B6 in Attachment B for the flow paths discretized for each subcatchment. The upstream and downstream topographic elevations and flow lengths were identified for each subcatchment and used in the calculations. For these natural subcatchments, the Federal Aviation Administration (FAA) method was determined to be the most appropriate method to calculate the Time to Peak.

Other methods, such as the Uplands method, were also included in that analysis. The FAA method was selected for use in the final model because it produced longer time-to-peak (Tp) values for the same catchments, resulting in lower peak flows under pre-development conditions. These lower peak flows were then used to establish allowable release rates for the proposed stormwater management facilities.

This approach results in a more conservative design, as the SWM controls are sized to ensure post-development flows do not exceed these lower pre-development thresholds. While the Uplands method is preferred in the Sewer Design Guidelines (Appendix 5-D), the FAA method remains suitable for flat, rural catchments with longer overland flow paths, which characterizes the study area. Therefore, the FAA-based design applied in this analysis is more conservative and protective of downstream infrastructure.

Full details of these calculations have been provided in **Table A2 in Attachment A**, along with other time-to-peak values using alternative tp calculation methods.

Existing SWMHYMO modelling

An existing conditions SWMHYMO model of the drainage areas was developed based on the pre-development drainage areas provided. To represent the existing undeveloped lands, CALIB NASHYDs have been used, with Initial Abstraction (IA)=4.67 mm, and Number of Linear Reservoirs (N)=3. Full input and summary files of the existing conditions model have been provided in Attachment A

Channel Routing

To account for channel routing throughout the study area, LiDAR has been used to approximate the channel cross-section and associated flow parameters (length & slope). **Figure A4 in Attachment A** outlines the major flow paths within the study area, which have been used to account for channel routing and time to peak calculations within the subcatchments.

Design & Historical Storms

The stormwater management analysis incorporates both standard design storms and historical storm events in accordance with the City of Ottawa's guidelines. The selected design storms include the 3-hour Chicago distribution and the 24-hour SCS distribution, which are consistent with standard practice for stormwater management design in the region.

The 3-hour Chicago storm is widely used for urban infrastructure analysis because it provides a balanced representation of peak intensity and total rainfall volume. This duration is sufficient to generate meaningful runoff volumes for sizing stormwater management controls while capturing peak intensities that challenge conveyance systems. Although shorter-duration storms (e.g., 1-hour 100-year) exhibit higher peak intensities, their lower total rainfall volume often results in less conservative storage sizing. Conversely, the 24-hour SCS storm is included to assess broader floodplain impacts and downstream conveyance performance.

In addition to these design storms, the following historical events were simulated as per City requirements: July 1, 1979, August 4, 1988, and August 8, 1996. These events provide additional validation of system performance under real-world conditions and help ensure resiliency of the proposed stormwater management system.

Proposed Conditions

Drainage Areas & Imperviousness

For the Stratford Foxrun development under proposed conditions, Egis provided JFSA with detailed design drawings that included drainage areas and associated imperviousness. The proposed development lot layout and the associated drainage areas have been provided in **Figure B1 of Attachment B**. To represent the proposed Stratford Foxrun development lands, DESIGN STANDHYDs have been used, with default parameters per the city of Ottawa Storm Sewer Design Guidelines.

Onsite SWM Controls

Egis's design for the proposed development included detailed grading of localized depressions within the site that will act as onsite stormwater management controls, along with corresponding stage-storage tables. These stage-storage tables were directly incorporated into the hydrologic model. This integration allowed for the determination of appropriate outlet configurations for these facilities, as well as an accurate assessment of the storage volumes provided by the proposed depressions. Full detailed Stage/Storage/Outflow curves have been provided in **Tables B1 and B2 in Attachment B.** Based on this analysis, both sites will have a **75 mm** orifice at the bottom of the localized depression area and a **30cm** overflow weir at an elevation of **94.40m** and for extreme events.

Results

Onsite Controls Summary

Table 2 provides a comprehensive overview of the maximum storage volumes achieved at each of these locations across various return periods, in addition to their associated peak outflows and maximum water levels.

Table 1:Site Release Rates / Required Storage Volume / Ponding Depth/WSE

Event	Site 1 (0.480 ha)				Site 2 (0.447 ha)			
	Peak Outflow (m^3/s)	Pond Volume (m^3)	Pond WSE (m)	Depth (m)	Peak Outflow (m^3/s)	Pond Volume (m^3)	Pond WSE (m)	Depth (m)
2YrCHI3Hr	0.033	34	94.113	0.273	0.031	38	94.058	0.348
5YrCHI3Hr	0.054	64	94.189	0.349	0.049	65	94.167	0.447
10YrCHI3Hr	0.072	85	94.231	0.391	0.064	84	94.220	0.490
25YrCHI3Hr	0.094	113	94.284	0.444	0.083	109	94.280	0.540
50YrCHI3Hr	0.109	134	94.323	0.483	0.096	129	94.323	0.573
100YrCHI3Hr	0.130	158	94.364	0.524	0.114	150	94.366	0.606
2YrSCS24Hr	0.036	43	94.139	0.299	0.034	45	94.091	0.321
5YrSCS24Hr	0.056	72	94.205	0.365	0.051	71	94.185	0.405
10YrSCS24Hr	0.070	91	94.244	0.404	0.064	89	94.232	0.442
25YrSCS24Hr	0.088	117	94.292	0.452	0.080	112	94.286	0.486
50YrSCS24Hr	0.101	136	94.327	0.487	0.090	130	94.325	0.515
100YrSCS24Hr	0.115	157	94.362	0.522	0.103	149	94.364	0.544
July 1st, 1979	0.091	206	94.443	0.603	0.082	192	94.449	0.619
August 4th, 1988	0.108	173	94.389	0.549	0.096	165	94.396	0.556
August 8th, 1996	0.071	146	94.344	0.504	0.065	139	94.344	0.494
100YrCHI+20%	0.165	203	94.438	0.598	0.144	188	94.439	0.579

Peak Flows at Key Locations

The model was run for both existing and proposed conditions, and peak flows were extracted from the key nodes within the watercourse (refer to **Figure A4** for locations). **Table 2** outlines the peak flows for various return periods at each node, covering both the 3-hour Chicago and 24-hour SCS storms for 2- to 100-year events, along with the stress test and historical events.

This analysis indicates minor increases in peak flows to the roadside ditch for lower return period events under post-development conditions (2YrCHI3Hr, 5YrCHI3Hr & 2YRSCS24Hr). However, for larger events (e.g., the 100-year storm), peak flows are equal to or less than those under existing conditions. For the lower return period events (2YrCHI3Hr, 5YrCHI3Hr & 2YRSCS24Hr) that exhibit slight increases in peak flows, the hydraulic modelling indicates that maximum velocities within the ditch remain below 1.5 m/s. This threshold aligns with the maximum permissible velocity for grassed roadside ditches without requiring bioengineering stabilization measures, as outlined in Section 2.3 of SD-9 Roadside Ditches (Conveyance Only) from the MTO Highway Drainage Design Standards. Therefore, it can be concluded that the modest increase in flow rates during smaller storm events will not result in adverse erosion within the grassed channel.

Additionally, both sites will utilize a **75 mm** orifice at the outlet to maximize the storage capacity of these depression areas; this is the smallest allowable outlet size per MECP SWM guidelines.

Table 2: Pre and Post Development Peak Flow Summary

Event	Node	J1		Node	J2		Node	J3		Node	J4	
	Pre	Post	Diff	Pre	Post	Diff	Pre	Post	Diff	Pre	Post	Diff
Area (ha)	0.85	1.23	0.38	4.62	5	0.38	4.93	5.31	0.38	5.52	5.9	0.38
2YrCHI3Hr	0.015	0.019	0.004	0.057	0.062	0.005	0.061	0.066	0.005	0.067	0.072	0.005
5YrCHI3Hr	0.026	0.027	0.001	0.102	0.102	0.000	0.109	0.109	0.000	0.121	0.122	0.001
10YrCHI3Hr	0.035	0.032	-0.003	0.136	0.132	-0.004	0.145	0.141	-0.004	0.162	0.159	-0.003
25YrCHI3Hr	0.047	0.038	-0.009	0.181	0.172	-0.009	0.194	0.185	-0.009	0.218	0.209	-0.009
50YrCHI3Hr	0.057	0.043	-0.014	0.219	0.205	-0.014	0.234	0.220	-0.014	0.263	0.249	-0.014
100YrCHI3Hr	0.067	0.048	-0.019	0.258	0.239	-0.019	0.277	0.258	-0.019	0.311	0.292	-0.019
2YrSCS24Hr	0.024	0.024	0.000	0.090	0.091	0.001	0.096	0.097	0.001	0.107	0.108	0.001
5YrSCS24Hr	0.038	0.032	-0.006	0.148	0.142	-0.006	0.158	0.152	-0.006	0.177	0.171	-0.006
10YrSCS24Hr	0.049	0.037	-0.012	0.189	0.178	-0.011	0.202	0.191	-0.011	0.227	0.216	-0.011
25YrSCS24Hr	0.062	0.044	-0.018	0.242	0.224	-0.018	0.259	0.242	-0.017	0.291	0.274	-0.017
50YrSCS24Hr	0.073	0.049	-0.024	0.284	0.260	-0.024	0.305	0.281	-0.024	0.343	0.320	-0.023
100YrSCS24Hr	0.084	0.055	-0.029	0.329	0.300	-0.029	0.354	0.325	-0.029	0.399	0.370	-0.029
July 1st, 1979	0.090	0.060	-0.030	0.372	0.345	-0.027	0.399	0.371	-0.028	0.448	0.420	-0.028
August 4th, 1988	0.079	0.053	-0.026	0.314	0.287	-0.027	0.338	0.313	-0.025	0.379	0.354	-0.025
August 8th, 1996	0.052	0.040	-0.012	0.210	0.199	-0.011	0.226	0.215	-0.011	0.254	0.243	-0.011
100YrCHI+20%	0.090	0.061	-0.029	0.346	0.321	-0.025	0.372	0.345	-0.027	0.419	0.392	-0.027

Table 2: Pre and Post Development Peak Flow Summary

Event	Node	J5		Node	J6		Node	J7		Node	J8	
	Pre	Post	Diff	Pre	Post	Diff	Pre	Post	Diff	Pre	Post	Diff
Area (ha)	6.86	7.23	0.37	1.01	1.02	0.01	1.83	1.46	-0.37	13.1	13.09	-0.01
2YrCHI3Hr	0.080	0.086	0.006	0.016	0.021	0.005	0.019	0.018	-0.001	0.141	0.146	0.005
5YrCHI3Hr	0.147	0.149	0.002	0.025	0.028	0.003	0.035	0.034	-0.001	0.264	0.265	0.001
10YrCHI3Hr	0.197	0.196	-0.001	0.034	0.034	0.000	0.047	0.047	0.000	0.361	0.357	-0.004
25YrCHI3Hr	0.267	0.260	-0.007	0.047	0.047	0.000	0.065	0.064	-0.001	0.493	0.483	-0.010
50YrCHI3Hr	0.323	0.312	-0.011	0.057	0.057	0.000	0.079	0.078	-0.001	0.602	0.586	-0.016
100YrCHI3Hr	0.384	0.368	-0.016	0.069	0.069	0.000	0.095	0.094	-0.001	0.721	0.700	-0.021
2YrSCS24Hr	0.128	0.130	0.002	0.023	0.023	0.000	0.032	0.031	-0.001	0.233	0.234	0.001
5YrSCS24Hr	0.215	0.211	-0.004	0.039	0.039	0.000	0.054	0.053	-0.001	0.400	0.393	-0.007
10YrSCS24Hr	0.277	0.268	-0.009	0.051	0.051	0.000	0.070	0.069	-0.001	0.517	0.505	-0.012
25YrSCS24Hr	0.357	0.342	-0.015	0.066	0.066	0.000	0.092	0.090	-0.002	0.675	0.656	-0.019
50YrSCS24Hr	0.421	0.400	-0.021	0.079	0.079	0.000	0.110	0.107	-0.003	0.800	0.776	-0.024
100YrSCS24Hr	0.491	0.465	-0.026	0.093	0.093	0.000	0.129	0.126	-0.003	0.939	0.906	-0.033
July 1st, 1979	0.557	0.530	-0.027	0.094	0.094	0.000	0.137	0.130	-0.007	1.057	1.018	-0.039
August 4th, 1988	0.462	0.440	-0.022	0.085	0.085	0.000	0.121	0.115	-0.006	0.883	0.857	-0.026
August 8th, 1996	0.308	0.300	-0.008	0.058	0.058	0.000	0.082	0.079	-0.003	0.586	0.576	-0.010
100YrCHI+20%	0.519	0.495	-0.024	0.095	0.095	0.000	0.131	0.129	-0.002	0.984	0.951	-0.033

HYDRAULICS

The detailed hydraulic analysis of the downstream study area was conducted using the US Army Corps of Engineers HEC-RAS software (version 6.6). The purpose of this hydraulic analysis is to assess the hydraulic impacts that the proposed Stratford Foxrun development may have on existing water levels for the applicable design storms.

Model Development & Parameters

The primary method used to establish cross-sections involved detailed topographic surveying, typically conducted at approximately 50-meter intervals along the watercourse. These measurements were supplemented with LiDAR data in the floodplain to enhance spatial coverage and resolution. This close spacing is essential for accurately representing the hydraulic characteristics and flow conveyance capacity of the existing channel. The selected interval aligns with HEC-RAS best practices for open-channel flow modelling in rural systems, particularly where channel geometry and slope are relatively uniform. In general, cross-section spacing between 30 and 100 meters is considered appropriate for natural channels, unless abrupt changes in geometry, slope, or hydraulic controls are present.

To ensure the model captured localized hydraulic effects, additional cross-sections were inserted at key hydraulic structures (e.g., culverts and driveway crossings) and at locations where notable changes in channel geometry or slope occurred. This approach allowed for an accurate representation of hydraulic behaviour without introducing unnecessary complexity or instability into the model. In areas not explicitly surveyed, supplementary cross-sections were generated by sampling the merged LiDAR and topographic Digital Terrain Model (DTM). This ensured that all critical sections were included to accurately reflect channel hydraulics. The extent and location of all model cross-sections are illustrated in **Figure C1** of **Attachment C**.

Existing hydraulic infrastructure, such as culverts, on the respective watercourses, was incorporated into the model based on the details obtained from the topographic surveys. Consistent with HEC-RAS technical guidelines, ineffective flow areas and expansion-contraction coefficients were appropriately applied at these locations. Typical Manning's values of 0.035 and 0.05 were applied to the roadside ditch channel bottom and over banks, respectively.

A normal downstream boundary condition was applied for all events due to the substantial difference in drainage area between Marlborough Creek and the roadside ditch. The study area at the confluence with Marlborough Creek has a drainage area of **13.1 ha**, with a channel length of **1.034 km** and an average slope of **0.6%,** based on detailed modelling presented in this report. In contrast, Marlborough Creek at the same location has a drainage area of **437.4 ha**, a channel length of **5.120 km**, and an average slope of **0.26%,** as per the Ontario Watershed Information Tool. Using the velocity method outlined in Chapter 15 of the USDA's Hydrology National Engineering Handbook, the time to peak for the study area was calculated to be **1.2 hours**, while the time to peak for Marlborough Creek was estimated at **8.8 hours**. A full summary of these calculations is provided in **Table 3** below. Given the significant difference in time to peak between the two systems, it is evident that peak flows from the study area and Marlborough Creek cannot coincide. Therefore, the application of a normal downstream boundary condition is considered appropriate.

Table 3: Watercourse Time to Peak Calculations

Parameter	Units	Study Area	Malbrough Creek
Area	(ha)	13.1	437.4
Channel Length	(m)	1034	5120
Slope	(%)	0.60%	0.26%
Flow Type	-	Short grass	Short grass
Average Velocity	(m/s)	0.165	0.108
Time of Concentration	(secs)	6,275	47,262
Time of Concentration	(hrs)	1.7	13.1
Time to Peak	**(hrs)**	**1.2**	**8.8**

Results

The pre- and post-development models were run for the full range of design storms (2- to 100-Year Events) to accurately establish the existing and proposed floodplain extents within the study area. **Figures C2 and C3** illustrate the flood extents for both existing and proposed conditions during the 24-hour SCS-type storms (the critical design storm). **Figure C4** provide a comparison between the 100-year floodplain under both existing and proposed conditions. From this figure, it is shown that the 100-year floodplain extents along the ditch are reduced under post-development conditions. This demonstrates that the proposed stormwater management solution is effective and that the proposed development will not worsen existing flood conditions along the ditch. **Attachment C** also includes pre- and post-development long- and cross-section plots, along with summary tables.

This analysis also revealed that flows in the roadside ditch overtop the banks during 5- to 10-year events (depending on the design storm). This is expected, as the typical level of service for driveway crossings is generally in this range. It's crucial to note that existing driveway crossings, not the channel itself, are constricting flows and causing them to overtop the bank. Upsizing several culverts along this stretch of roadside ditch would significantly reduce the floodplain in this area.

Along Eagleson Road, approximately halfway between the railway and the Ottawa Street intersection, flows will overtop the bank and spill west to the culvert under the railway. For a conservative design, the hydraulic modelling does not account for this spill, assuming all flows proceed to the next downstream cross-section. It's also important to emphasize that for all events (up to and including the 100-year event), water levels in the roadside ditch do not reach an elevation that would impede traffic on either Eagleson Road or Ottawa Street, as the flood extents do not touch the shoulder of the road. Furthermore, the maximum 100-year floodplain extents do not affect any nearby buildings, meaning the current and proposed flood extents pose no danger to existing structures.

CONCLUSION

In summary, JFSA Canada Inc.'s hydrologic and hydraulic modelling confirms that the proposed Stratford Foxrun development's stormwater management plan effectively mitigates downstream impacts. The on-site localized depressions, with **75 mm** orifice outlets, will manage post-development runoff, ensuring peak flows for major storm events (up to 100-year) remain at or below pre-development levels.

The HEC-RAS analysis further demonstrates that the proposed SWM measures will lead to a reduction in the 100-year floodplain extent along the receiving roadside ditch. While existing culverts contribute to minor, more frequent overtopping, the development itself will not worsen these conditions or cause flooding that impedes traffic or endangers structures during major events. The findings indicate that the proposed SWM strategy for this site is sufficient and will not adversely impact downstream lands.

Yours truly,
JFSA Canada Inc.

Jonathon Burnett, B.Eng, P.Eng
Water Resource Engineer

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

Figures
Figure 1: Site Boundary and Existing Watercourse

Tables
Table 1: Site Release Rates / Required Storage Volume / Ponding Depth
Table 2: Peak Flows at Key Locations

Attachments
Attachment A: Pre-Development Hydrology
Attachment B: Post Development Hydrology
Attachment C: Hydraulic Analysis

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Attachment A

Pre-Development Hydrology

N

Legend

- Jock River Tributary
- Pre-dev. Subcatchments

Google Hybrid

EXT1 3.212 ha — Subcatchment Name; Subcatchment Area (ha)

SCALE: 1:3000

0 50 100 150 m

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Figure A1: Existing Drainage Areas

PROJECT	P2710(e01)
DRAWN	MM
DATE	04-06-2025

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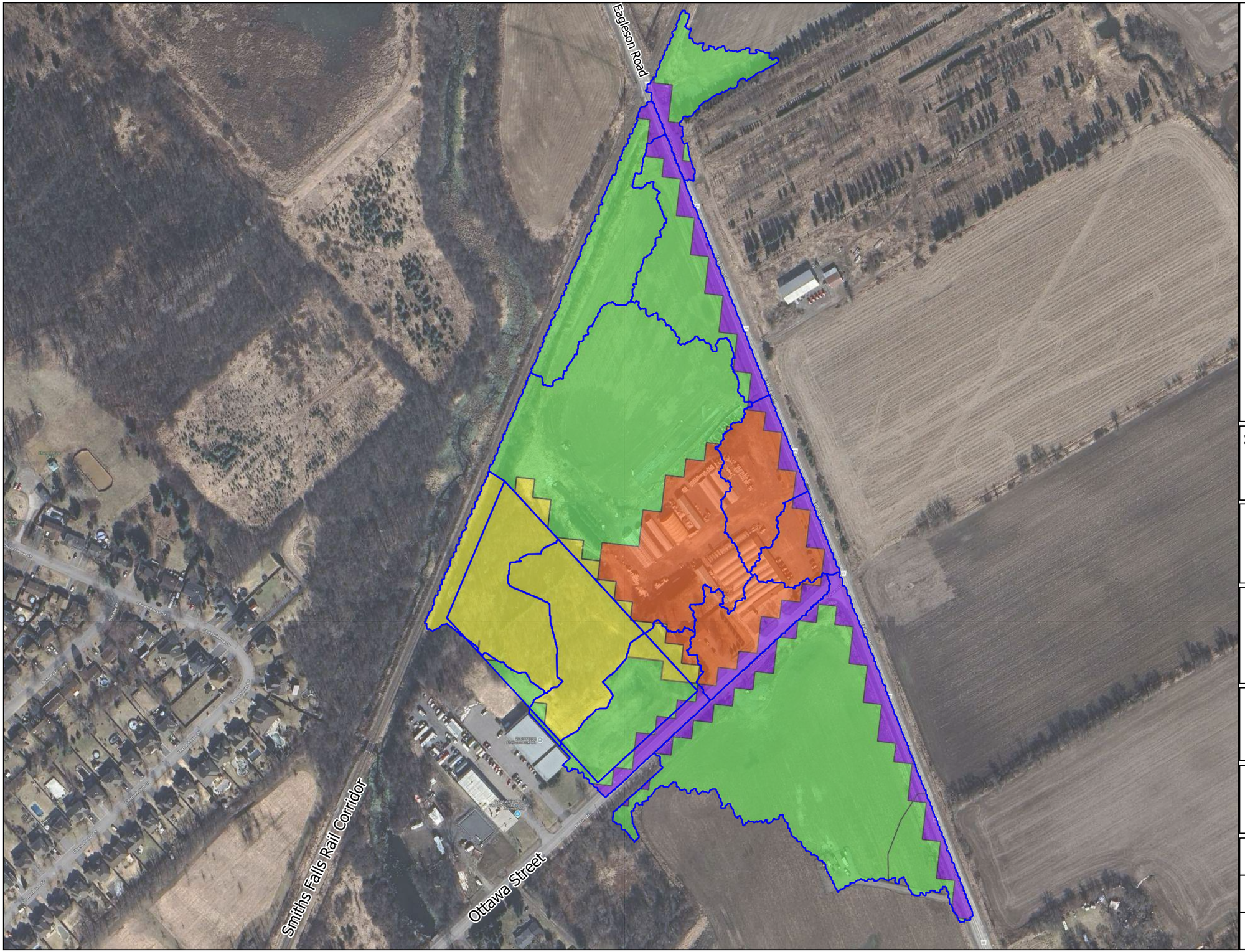

N

Legend

- Pre-dev. Subcatchments

CN

- Built Up Area - Pervious
- Transportation
- Forest
- Tilled

Google Hybrid

SCALE: 1:3000

0 50 100 150 m

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Figure A2: Land Use Data

PROJECT	P2710(e01)
DRAWN	MM
DATE	04-06-2025

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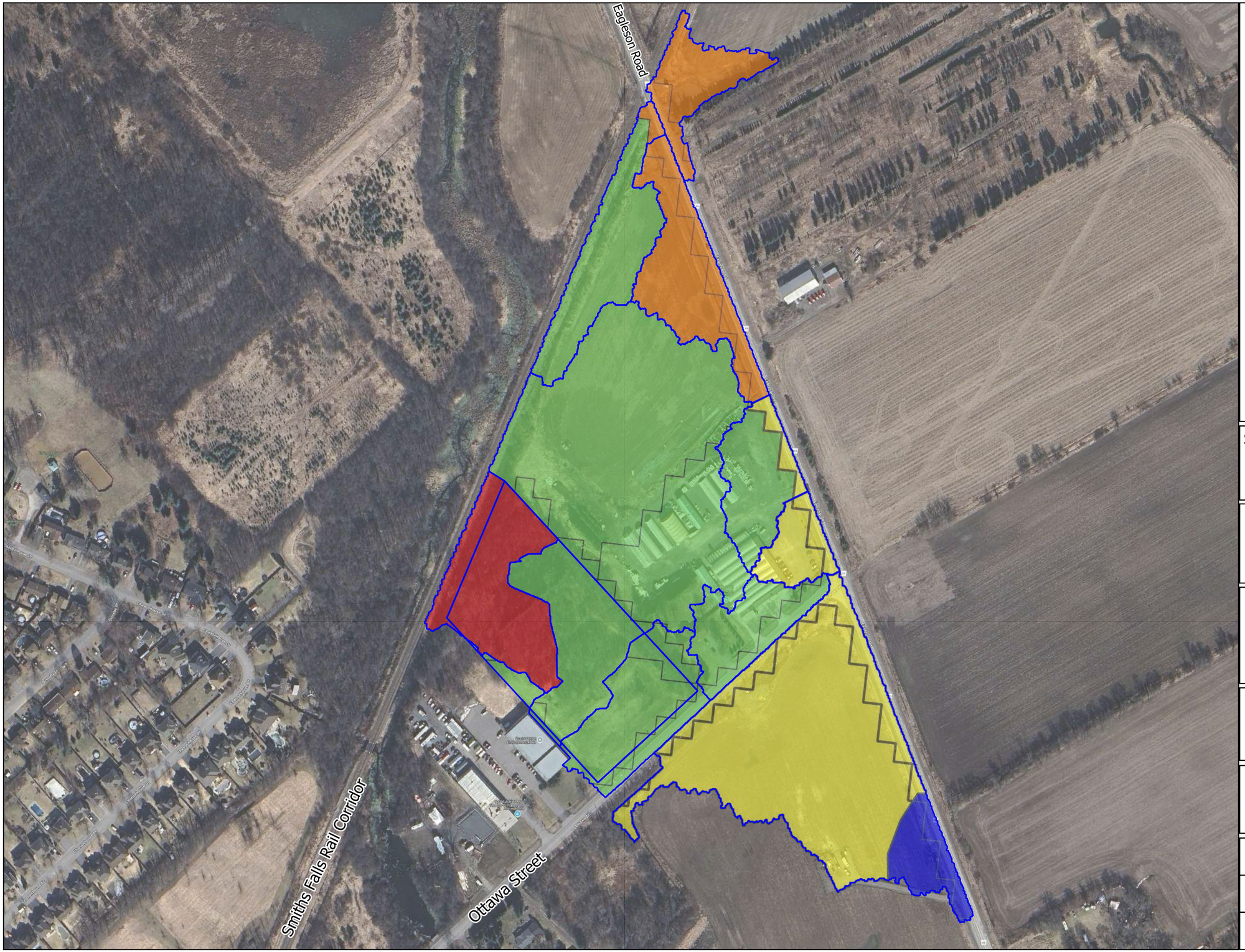

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Legend

- Pre-dev. Subcatchments

Soil Name (Soil Type)

- ERODED CHANNEL (D)
- NORTH GOWER (D)
- DALHOUSIE (D)
- BRANDON (D)
- GRENVILLE (B)

Google Hybrid

SCALE: 1:3000

0 50 100 150 m

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Figure A3: Soil Type

PROJECT	P2710(e01)
DRAWN	MM
DATE	04-06-2025

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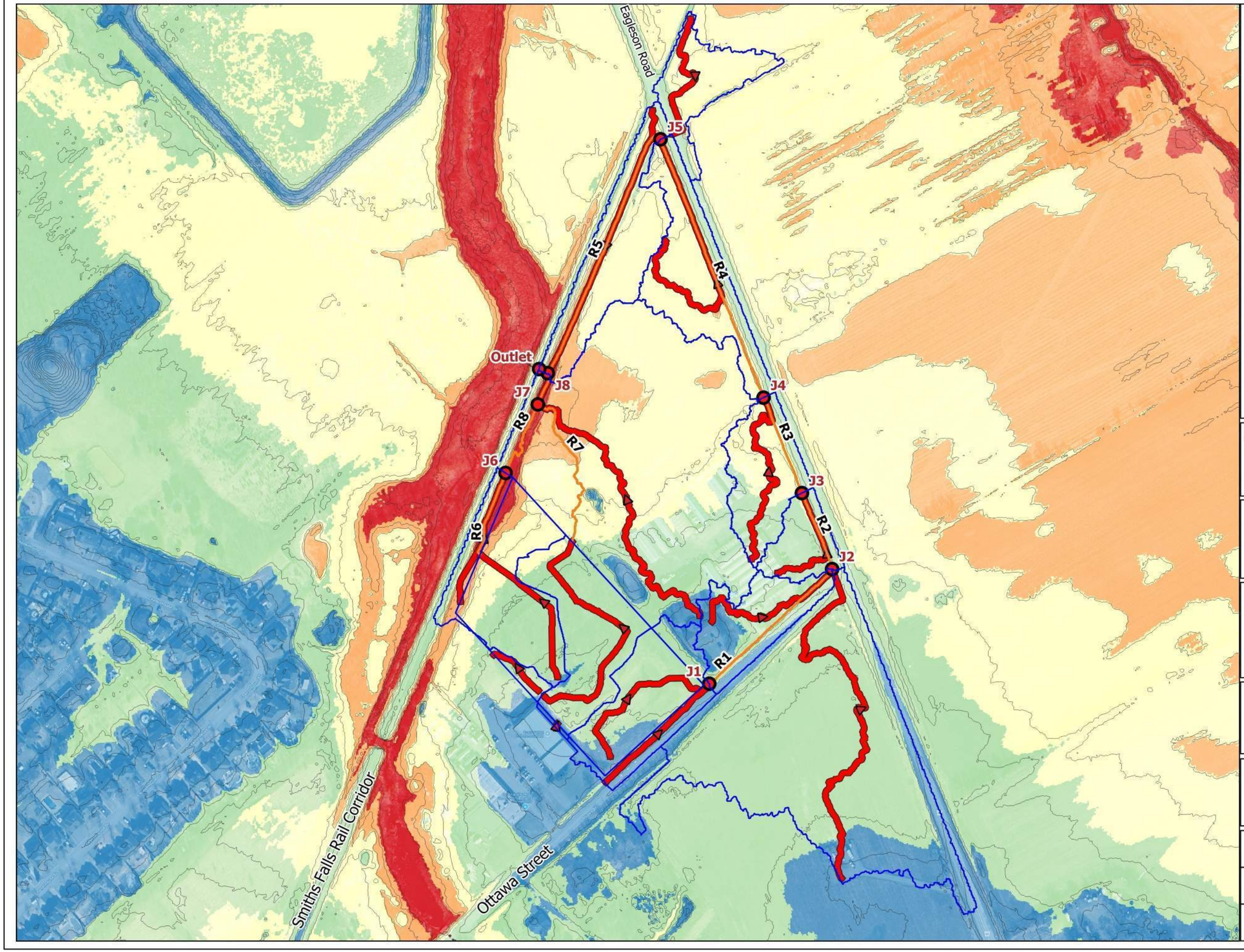

Legend

- Pre-dev. Subcatchments
- Flow Path

LiDAR

- 91.65
- 92.48
- 93.32
- 94.15

LiDAR Contour

- 0.5

SCALE: 1:3000

0 50 100 150 m

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Figure A4: Flow Paths and Route Channels

PROJECT	P2710(e01)
DRAWN	MM
DATE	04-06-2025

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Table A1: Calculation of SCS Curve Number (CN) and Modified Curve Number (CN*)

EXT1 (3.212 ha)							
Area (ha)	Land Type	Soil Name	Soil Condition	Soil Group	CN	% of Catchment	Weighted CN
0.107	Transportation	GRENVILLE	Fair	B	98	3.3%	3.3
0.229	Tilled	GRENVILLE	Fair	B	69	7.1%	4.9
0.403	Transportation	BRANDON	Fair	D	98	12.5%	12.3
2.472	Tilled	BRANDON	Fair	D	84	77.0%	64.6
						CN	**85**
						CN*	**80**

EXT2 (0.285 ha)							
Area (ha)	Land Type	Soil Name	Soil Condition	Soil Group	CN	% of Catchment	Weighted CN
0.04	Built Up Area - Pervious	NORTH GOWER	Fair	D	80	14.0%	11.2
0.051	Tilled	NORTH GOWER	Fair	D	84	17.9%	15.0
0.067	Forest	NORTH GOWER	Fair	D	79	23.5%	18.6
0.127	Transportation	NORTH GOWER	Fair	D	98	44.6%	43.7
						CN	**89**
						CN*	**85**

EXT3 (0.56 ha)							
Area (ha)	Land Type	Soil Name	Soil Condition	Soil Group	CN	% of Catchment	Weighted CN
0	Forest	NORTH GOWER	Fair	D	79	0.0%	0.0
0.17	Transportation	NORTH GOWER	Fair	D	98	30.4%	29.8
0.39	Built Up Area - Pervious	NORTH GOWER	Fair	D	80	69.6%	55.7
						CN	**85**
						CN*	**80**

EXT4 (0.309 ha)							
Area (ha)	Land Type	Soil Name	Soil Condition	Soil Group	CN	% of Catchment	Weighted CN
0.074	Transportation	BRANDON	Fair	D	98	23.9%	23.5
0.235	Built Up Area - Pervious	BRANDON	Fair	D	80	76.1%	60.8
						CN	**84**
						CN*	**79**

EXT5 (0.594 ha)							
Area (ha)	Land Type	Soil Name	Soil Condition	Soil Group	CN	% of Catchment	Weighted CN
0.084	Transportation	BRANDON	Fair	D	98	14.1%	13.9
0.51	Built Up Area - Pervious	NORTH GOWER	Fair	D	80	85.9%	68.7
						CN	**83**
						CN*	**76**

Table A1: Calculation of SCS Curve Number (CN) and Modified Curve Number (CN*)

EXT6 (0.864 ha)							
Area (ha)	Land Type	Soil Name	Soil Condition	Soil Group	CN	% of Catchment	Weighted CN
0.271	Transportation	DALHOUSIE	Fair	D	98	31.4%	30.7
0.593	Tilled	DALHOUSIE	Fair	D	84	68.6%	57.7
						CN	**88**
						CN*	**85**

EXT7 (0.47 ha)							
Area (ha)	Land Type	Soil Name	Soil Condition	Soil Group	CN	% of Catchment	Weighted CN
0.097	Transportation	DALHOUSIE	Fair	D	98	20.6%	20.2
0.374	Tilled	DALHOUSIE	Fair	D	84	79.6%	66.8
						CN	**87**
						CN*	**83**

EXT8 (0.835 ha)							
Area (ha)	Land Type	Soil Name	Soil Condition	Soil Group	CN	% of Catchment	Weighted CN
0.036	Transportation	DALHOUSIE	Fair	D	98	4.3%	4.2
0.798	Tilled	NORTH GOWER	Fair	D	84	95.6%	80.3
						CN	**85**
						CN*	**79**

EXT9 (3.572 ha)							
Area (ha)	Land Type	Soil Name	Soil Condition	Soil Group	CN	% of Catchment	Weighted CN
0.001	Transportation	NORTH GOWER	Fair	D	98	0.0%	0.0
0.126	Forest	NORTH GOWER	Fair	D	79	3.5%	2.8
0.998	Built Up Area - Pervious	NORTH GOWER	Fair	D	80	27.9%	22.4
2.446	Tilled	NORTH GOWER	Fair	D	84	68.5%	57.5
						CN	**83**
						CN*	**76**

EXT9a (0.011 ha)							
Area (ha)	Land Type	Soil Name	Soil Condition	Soil Group	CN	% of Catchment	Weighted CN
0.011	Tilled	NORTH GOWER	Fair	D	84	100.0%	84.0
						CN	**84**
						CN*	**78**

EXT10 (0.203 ha)							
Area (ha)	Land Type	Soil Name	Soil Condition	Soil Group	CN	% of Catchment	Weighted CN
0.203	Forest	ERODED CHANNEL	Fair	D	79	100.0%	79.0
						CN	**79**
						CN*	**71**

Table A1: Calculation of SCS Curve Number (CN) and Modified Curve Number (CN*)

Pre10 (0.803 ha)							
Area (ha)	Land Type	Soil Name	Soil Condition	Soil Group	CN	% of Catchment	Weighted CN
0.803	Forest	ERODED CHANNEL	Fair	D	79	100.0%	79.0
						CN	**79**
						CN*	**71**

Pre11 (0.069 ha)							
Area (ha)	Land Type	Soil Name	Soil Condition	Soil Group	CN	% of Catchment	Weighted CN
0.004	Forest	NORTH GOWER	Fair	D	79	5.8%	4.6
0.065	Tilled	NORTH GOWER	Fair	D	84	94.2%	79.1
						CN	**84**
						CN*	**78**

Pre2 (0.565 ha)							
Area (ha)	Land Type	Soil Name	Soil Condition	Soil Group	CN	% of Catchment	Weighted CN
0.017	Transportation	NORTH GOWER	Fair	D	98	3.0%	2.9
0.066	Forest	NORTH GOWER	Fair	D	79	11.7%	9.2
0.483	Tilled	NORTH GOWER	Fair	D	84	85.5%	71.8
						CN	**84**
						CN*	**78**

Pre9 (0.83 ha)							
Area (ha)	Land Type	Soil Name	Soil Condition	Soil Group	CN	% of Catchment	Weighted CN
0	Built Up Area - Pervious	NORTH GOWER	Fair	D	80	0.0%	0.0
0.014	Tilled	NORTH GOWER	Fair	D	84	1.7%	1.4
0.815	Forest	NORTH GOWER	Fair	D	79	98.2%	77.6
						CN	**79**
						CN*	**71**

Table A2: Time to Peak Calculations

Parameter	Units	EXT1	EXT2	EXT3	EXT4	EXT5	EXT6	EXT7	EXT8	EXT9	EXT9a	EXT10	Pre10	Pre11	Pre2	Pre9
Area	ha	3.211	0.285	0.560	0.309	0.594	0.864	0.471	0.834	3.571	0.011	0.203	0.803	0.069	0.566	0.829
CN	-	80	85	80	79	76	85	83	79	76	78	71	71	78	78	71
Ptotal to calc C from CN, use 2 yr 24 hr Chicago storm	P(mm)	48.7	48.7	48.7	48.7	48.7	48.7	48.7	48.7	48.7	48.7	48.7	48.7	48.7	48.7	48.7
	Ia(mm)	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
	RV(mm)	17.7	21.4	18.0	16.9	15.4	21.2	19.7	17.1	15.6	16.7	12.9	12.9	16.4	16.7	12.9
C (From Chicago storm)	-	0.363	0.439	0.370	0.348	0.317	0.436	0.404	0.351	0.319	0.342	0.265	0.265	0.337	0.342	0.265
Length of Channel	m	404	121	161	116	215	279	140	263	344	5	121	135	54	145	236
	ft	1327	397	527	381	705	916	459	862	1128	15	398	443	176	475	776
Elevation of Head Water	m	94.63	94.17	94.91	93.95	94.08	92.97	93.24	93.52	94.94	94.74	91.69	94.14	94.09	94.34	94.11
	ft	310	309	311	308	309	305	306	307	311	311	301	309	309	310	309
Elevation of Outlet	m	92.98	93.57	93.00	92.69	92.44	91.96	92.11	90.43	90.46	94.55	91.11	91.71	93.58	93.80	93.20
	ft	305	307	305	304	303	302	302	297	297	310	299	301	307	308	306
Average Slope	%	0.41%	0.50%	1.18%	1.08%	0.76%	0.36%	0.81%	1.17%	1.30%	4.28%	0.49%	1.80%	0.96%	0.38%	0.38%
Flow Type (Uplands)	-	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
Kirpich																
Time of Concentration	mins	16	6	5	4	8	13	6	8	9	0	6	4	2	8	11
Time to Peak	min	11	4	4	3	5	9	4	5	6	0	4	3	2	5	7
Time to Peak	Hours	0.18	0.07	0.06	0.05	0.09	0.14	0.06	0.09	0.10	0.00	0.07	0.04	0.03	0.09	0.12
FAA (From Chicago storm)																
Time of Concentration	mins	65	30	29	26	41	51	29	37	43	3	38	26	18	41	58
Time to Peak	mins	43	20	19	17	27	34	19	25	29	2	25	17	12	27	38
Time to Peak	Hours	0.72	0.33	0.32	0.29	0.45	0.56	0.32	0.42	0.48	0.04	0.42	0.29	0.21	0.46	0.64
Barnsby Williams																
Time of Concentration	mins	25	9	9	7	14	20	9	15	17	0	9	7	4	11	17
Time to Peak	mins	17	6	6	5	9	13	6	10	11	0	6	5	3	7	11
Time to Peak	Hours	0.28	0.10	0.11	0.08	0.15	0.22	0.10	0.17	0.18	0.00	0.10	0.08	0.05	0.12	0.19
SCS																
Time of Concentration	mins	63	18	17	15	31	42	17	27	34	1	28	16	9	30	54
Time to Peak	mins	42	12	12	10	21	28	12	18	23	0	19	11	6	20	36
Time to Peak	Hours	0.70	0.20	0.19	0.16	0.34	0.47	0.19	0.30	0.38	0.01	0.31	0.18	0.10	0.34	0.61
Uplands																
Time of Concentration	mins	69	19	16	12	27	50	17	26	33	0	19	11	6	26	41
Time to Peak	mins	46	12	11	8	18	34	11	18	22	0	13	7	4	17	28
Time to Peak	Hours	0.76	0.21	0.18	0.13	0.30	0.56	0.19	0.29	0.36	0.00	0.21	0.12	0.07	0.28	0.46
Selected Method:	**FAA (From Chicago storm)**															
Time to Peak	min	43	20	19	17	27	34	19	25	29	2	25	17	12	27	38
Time to Peak	Hours	0.72	0.33	0.32	0.29	0.45	0.56	0.32	0.42	0.48	0.04	0.42	0.29	0.21	0.46	0.64
Velocity	m/s	0.16	0.10	0.14	0.11	0.13	0.14	0.12	0.18	0.20	0.04	0.08	0.13	0.07	0.09	0.10

```
20    Metric units / ID numbers OFF
*#*************************************************************************************************
*#  SWMHYMO  / INPUT DATA FILE
*#*************************************************************************************************
*#  Project Name  : [5923 Ottawa St]
*#  Project Number: [P2710(e01)]
*#  Date          : [2025 FEB 05]
*#  Modeller      : [MM]
*#  Company       : JFSA Canada Inc.
*#  License #     : 2549237
*#*************************************************************************************************
*# Model developed to simulate runoff from subcatchments under pre development conditions
*#*************************************************************************************************
*%  25 mm Storm based on 2-Year, 3-Hour Chicago Storm
START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[002]
                   ["002YC3H.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|-------------------------------------------------------|
READ STORM          STORM_FILENAME=["STORM.001"]
*%-----------------|-------------------------------------------------------|
*#*************************************************************************************************
*# EXT1
*#*************************************************************************************************
CALIB NASHYD        NHYD=["EXT1"], DT[1](min), AREA=[3.211](ha),
                    DWF=[0](cms), CN=[80],
                    IA=[4.67](mm), N=[3], TP[0.72](hrs),
                    RAINFALL[ , , -1]
*#*************************************************************************************************
*# EXT2
*#*************************************************************************************************
CALIB NASHYD        NHYD=["EXT2"], DT[1](min), AREA=[0.285](ha),
                    DWF=[0](cms), CN=[85],
                    IA=[4.67](mm), N=[3], TP[0.33](hrs),
                    RAINFALL[ , , -1]
*#*************************************************************************************************
*# EXT3
*#*************************************************************************************************
CALIB NASHYD        NHYD=["EXT3"], DT[1](min), AREA=[0.560](ha),
                    DWF=[0](cms), CN=[80],
                    IA=[4.67](mm), N=[3], TP[0.32](hrs),
                    RAINFALL[ , , -1]
*#*************************************************************************************************
*# EXT4
*#*************************************************************************************************
CALIB NASHYD        NHYD=["EXT4"], DT[1](min), AREA=[0.309](ha),
                    DWF=[0](cms), CN=[79],
                    IA=[4.67](mm), N=[3], TP[0.29](hrs),
                    RAINFALL[ , , -1]
*#*************************************************************************************************
*# EXT5
*#*************************************************************************************************
CALIB NASHYD        NHYD=["EXT5"], DT[1](min), AREA=[0.594](ha),
                    DWF=[0](cms), CN=[76],
                    IA=[4.67](mm), N=[3], TP[0.45](hrs),
                    RAINFALL[ , , -1]
*#*************************************************************************************************
```

```
***********
*# EXT6
*#*************************************************************************************
***********
CALIB NASHYD        NHYD=["EXT6"], DT[1](min), AREA=[0.864](ha),
                    DWF=[0](cms), CN=[85],
                    IA=[4.67](mm), N=[3], TP[0.56](hrs),
                    RAINFALL[ , , -1]
*#*************************************************************************************
***********
*# EXT7
*#*************************************************************************************
***********
CALIB NASHYD        NHYD=["EXT7"], DT[1](min), AREA=[0.471](ha),
                    DWF=[0](cms), CN=[83],
                    IA=[4.67](mm), N=[3], TP[0.32](hrs),
                    RAINFALL[ , , -1]
*#*************************************************************************************
***********
*# EXT8
*#*************************************************************************************
***********
CALIB NASHYD        NHYD=["EXT8"], DT[1](min), AREA=[0.834](ha),
                    DWF=[0](cms), CN=[79],
                    IA=[4.67](mm), N=[3], TP[0.42](hrs),
                    RAINFALL[ , , -1]
*#*************************************************************************************
***********
*# EXT9
*#*************************************************************************************
***********
CALIB NASHYD        NHYD=["EXT9"], DT[1](min), AREA=[3.571](ha),
                    DWF=[0](cms), CN=[76],
                    IA=[4.67](mm), N=[3], TP[0.48](hrs),
                    RAINFALL[ , , -1]
*#*************************************************************************************
***********
*# EXT9a
*#*************************************************************************************
***********
CALIB NASHYD        NHYD=["EXT9a"], DT[1](min), AREA=[0.011](ha),
                    DWF=[0](cms), CN=[78],
                    IA=[4.67](mm), N=[3], TP[0.04](hrs),
                    RAINFALL[ , , -1]
*#*************************************************************************************
***********
*# EXT10
*#*************************************************************************************
***********
CALIB NASHYD        NHYD=["EXT10"], DT[1](min), AREA=[0.203](ha),
                    DWF=[0](cms), CN=[71],
                    IA=[4.67](mm), N=[3], TP[0.42](hrs),
                    RAINFALL[ , , -1]
*#*************************************************************************************
***********
*# Pre2
*#*************************************************************************************
***********
CALIB NASHYD        NHYD=["Pre2"], DT[1](min), AREA=[0.566](ha),
                    DWF=[0](cms), CN=[78],
                    IA=[4.67](mm), N=[3], TP[0.46](hrs),
                    RAINFALL[ , , -1]
*#*************************************************************************************
***********
*# Pre9
*#*************************************************************************************
***********
CALIB NASHYD        NHYD=["Pre9"], DT[1](min), AREA=[0.829](ha),
                    DWF=[0](cms), CN=[71],
```

```
                    IA=[4.67](mm), N=[3], TP[0.64](hrs),
                    RAINFALL[ , , -1]
*#########################################################################################
***********
*# Pre10
*#########################################################################################
***********
CALIB NASHYD        NHYD=["Pre10"], DT[1](min), AREA=[0.803](ha),
                    DWF=[0](cms), CN=[71],
                    IA=[4.67](mm), N=[3], TP[0.29](hrs),
                    RAINFALL[ , , -1]
*#########################################################################################
***********
*# Pre11
*#########################################################################################
***********
CALIB NASHYD        NHYD=["Pre11"], DT[1](min), AREA=[0.069](ha),
                    DWF=[0](cms), CN=[78],
                    IA=[4.67](mm), N=[3], TP[0.21](hrs),
                    RAINFALL[ , , -1]
*#########################################################################################
***********
ADD HYD             NHYDsum=["J1"], NHYDs to add=["EXT2"+"Pre2"]
*%-----------------|-------------------------------------------------------|
* NOTE: Cross-section number 849.0434 is taken from HEC-RAS Model
ROUTE CHANNEL       NHYDout=["R1"], NHYDin=["J1"], RDT=[1](min),
                    CHLGTH=[143.151](m), CHSLOPE=[0.394](%), FPSLOPE=[0.394](%),
                    SECNUM=[849.0434], NSEG=[3],
                      ( SEGROUGH, SEGDIST (m))=[0.08,18.95 -0.035,26.78 0.08,35.18] NSEG
                      times
                      ( DISTANCE (m), ELEVATION (m))=[0.48, 94.05]
                                                     [3.19, 93.99]
                                                     [6.85, 93.91]
                                                     [10.48, 93.87]
                                                     [17.45, 93.85]
                                                     [18.95, 93.84]
                                                     [20.36, 93.81]
                                                     [22.3, 93.76]
                                                     [22.53, 93.72]
                                                     [23.98, 93.35]
                                                     [24.35, 93.33]
                                                     [24.65, 93.37]
                                                     [25.04, 93.45]
                                                     [26.04, 93.74]
                                                     [26.44, 93.82]
                                                     [26.78, 93.87]
                                                     [29.14, 94.11]
                                                     [33.98, 94.26]
                                                     [35.18, 94.26]
*%-----------------|-------------------------------------------------------|
ADD HYD             NHYDsum=["J2"], NHYDs to add=["R1"+"EXT3"+"EXT1"]
*%-----------------|-------------------------------------------------------|
* NOTE: Cross-section number 737.5813 is taken from HEC-RAS Model
ROUTE CHANNEL       NHYDout=["R2"], NHYDin=["J2"], RDT=[1](min),
                    CHLGTH=[73.338](m), CHSLOPE=[0.425](%), FPSLOPE=[0.425](%),
                    SECNUM=[737.5813], NSEG=[3],
                      ( SEGROUGH, SEGDIST (m))=[0.08,8.4 -0.035,16.42 0.08,22.6] NSEG
                      times
                      ( DISTANCE (m), ELEVATION (m))=[0, 93.52]
                                                     [1.08, 93.5]
                                                     [4.37, 93.48]
                                                     [6.31, 93.45]
                                                     [8.4, 93.38]
                                                     [9.5, 93.31]
                                                     [10.49, 93.23]
                                                     [10.99, 93.18]
                                                     [12.4, 92.94]
                                                     [13.11, 92.84]
                                                     [13.67, 92.92]
```

```
                                                    [16.42, 93.6]
                                                    [16.91, 93.65]
                                                    [17.97, 93.65]
                                                    [19, 93.83]
                                                    [19.51, 93.89]
                                                    [21.06, 93.94]
                                                    [22.6, 93.95]
*%-----------------|-------------------------------------------------------|
ADD HYD             NHYDsum=["J3"], NHYDs to add=["R2"+"EXT4"]
*%-----------------|-------------------------------------------------------|
* NOTE: Cross-section number 675.4097 is taken from HEC-RAS Model
ROUTE CHANNEL       NHYDout=["R3"], NHYDin=["J3"], RDT=[1](min),
                    CHLGTH=[92.08](m), CHSLOPE=[0.274](%), FPSLOPE=[0.274](%),
                    SECNUM=[675.4097], NSEG=[3],
                      ( SEGROUGH, SEGDIST (m))=[0.08,31.64 -0.035,42.44 0.08,48.87] NSEG
                      times
                      ( DISTANCE (m), ELEVATION (m))=[30.59, 93.12]
                                                    [31.64, 93.13]
                                                    [34.35, 93.08]
                                                    [35.18, 93.03]
                                                    [37.78, 92.72]
                                                    [38.25, 92.64]
                                                    [38.7, 92.61]
                                                    [39.74, 92.76]
                                                    [42.44, 93.41]
                                                    [42.89, 93.49]
                                                    [43.97, 93.57]
                                                    [44.92, 93.6]
                                                    [46.07, 93.67]
                                                    [48.87, 93.74]
*%-----------------|-------------------------------------------------------|
ADD HYD             NHYDsum=["J4"], NHYDs to add=["R3"+"EXT5"]
*%-----------------|-------------------------------------------------------|
* NOTE: Cross-section number 518.7506 is taken from HEC-RAS Model
ROUTE CHANNEL       NHYDout=["R4"], NHYDin=["J4"], RDT=[1](min),
                    CHLGTH=[251.495](m), CHSLOPE=[0.19](%), FPSLOPE=[0.19](%),
                    SECNUM=[518.7506], NSEG=[3],
                      ( SEGROUGH, SEGDIST (m))=[0.08,51.48 -0.035,59.39 0.08,66.4] NSEG
                      times
                      ( DISTANCE (m), ELEVATION (m))=[0, 92.92]
                                                    [4.26, 92.9]
                                                    [48.31, 92.76]
                                                    [51.48, 92.76]
                                                    [53.64, 92.7]
                                                    [55.33, 92.29]
                                                    [55.44, 92.29]
                                                    [56.43, 92.37]
                                                    [56.97, 92.43]
                                                    [59.39, 93.27]
                                                    [59.74, 93.37]
                                                    [60.8, 93.52]
                                                    [63.31, 93.71]
                                                    [66.4, 93.76]
*%-----------------|-------------------------------------------------------|
ADD HYD             NHYDsum=["J5"], NHYDs to add=["R4"+"EXT6"+"EXT7"]
*%-----------------|-------------------------------------------------------|
* NOTE: Cross-section number 275.0857 is taken from HEC-RAS Model
ROUTE CHANNEL       NHYDout=["R5"], NHYDin=["J5"], RDT=[1](min),
                    CHLGTH=[237.343](m), CHSLOPE=[0.644](%), FPSLOPE=[0.644](%),
                    SECNUM=[275.0857], NSEG=[3],
                      ( SEGROUGH, SEGDIST (m))=[0.08,40.82 -0.035,53.64 0.08,57.93] NSEG
                      times
                      ( DISTANCE (m), ELEVATION (m))=[36.16, 92.63]
                                                    [40.82, 92.97]
                                                    [41.39, 92.9]
                                                    [44.69, 91.72]
                                                    [45.24, 91.58]
                                                    [46.33, 91.43]
                                                    [47.41, 91.64]
```

```
                                                    [47.87, 91.75]
                                                    [49.59, 92.2]
                                                    [50.99, 92.36]
                                                    [51.44, 92.48]
                                                    [53.18, 92.98]
                                                    [53.64, 93.15]
                                                    [55.92, 93.66]
                                                    [57.93, 93.68]
*%-----------------|-------------------------------------------------------|
* NOTE: Cross-section number 124 is taken from HEC-RAS Model
ROUTE CHANNEL       NHYDout=["R6"], NHYDin=["Pre10"], RDT=[1](min),
                    CHLGTH=[77.414](m), CHSLOPE=[0.776](%), FPSLOPE=[0.776](%),
                    SECNUM=[124], NSEG=[3],
                      ( SEGROUGH, SEGDIST (m))=[0.08,8.34 -0.035,31.31 0.08,84.97] NSEG
                      times
                      ( DISTANCE (m), ELEVATION (m))=[1.78, 93.73]
                                                    [4.51, 93.54]
                                                    [5.06, 93.31]
                                                    [7.25, 92.98]
                                                    [7.79, 92.77]
                                                    [8.34, 92.49]
                                                    [9.43, 91.93]
                                                    [9.68, 91.81]
                                                    [10.53, 91.27]
                                                    [12.64, 90.92]
                                                    [14.44, 90.9]
                                                    [16.54, 91.06]
                                                    [17.64, 91.06]
                                                    [30.22, 92.3]
                                                    [31.31, 92.45]
                                                    [33.5, 92.41]
                                                    [55.37, 93.11]
                                                    [57.01, 93.2]
                                                    [84.97, 93.43]
*%-----------------|-------------------------------------------------------|
* NOTE: Cross-section number 74 is taken from HEC-RAS Model
ROUTE CHANNEL       NHYDout=["R7"], NHYDin=["Pre9"], RDT=[1](min),
                    CHLGTH=[159.151](m), CHSLOPE=[1.576](%), FPSLOPE=[1.576](%),
                    SECNUM=[74], NSEG=[3],
                      ( SEGROUGH, SEGDIST (m))=[0.08,4.67 -0.035,81.24 0.08,82.88] NSEG
                      times
                      ( DISTANCE (m), ELEVATION (m))=[1.94, 93.64]
                                                    [4.67, 93.32]
                                                    [5.77, 93.15]
                                                    [7.41, 92.69]
                                                    [7.95, 92.37]
                                                    [9.36, 91.71]
                                                    [10.12, 91.22]
                                                    [10.49, 91.06]
                                                    [12.64, 90.89]
                                                    [16.16, 90.92]
                                                    [18.83, 91.66]
                                                    [19.59, 92.02]
                                                    [21.62, 92.39]
                                                    [24.87, 92.48]
                                                    [30.37, 92.55]
                                                    [34.37, 92.65]
                                                    [77.41, 92.82]
                                                    [80.6, 93.25]
                                                    [81.24, 93.48]
                                                    [82.88, 93.79]
*%-----------------|-------------------------------------------------------|
ADD HYD             NHYDsum=["J6"], NHYDs to add=["R6"+"EXT10"]
*%-----------------|-------------------------------------------------------|
* NOTE: Cross-section number 49 is taken from HEC-RAS Model
ROUTE CHANNEL       NHYDout=["R8"], NHYDin=["J6"], RDT=[1](min),
                    CHLGTH=[78.801](m), CHSLOPE=[0.522](%), FPSLOPE=[0.522](%),
                    SECNUM=[49], NSEG=[3],
                      ( SEGROUGH, SEGDIST (m))=[0.08,8.71 -0.035,20.59 0.08,116.73] NSEG
```

```
                        times
304                     ( DISTANCE (m), ELEVATION (m))=[0, 93.36]
305                                                   [1.93, 93.63]
306                                                   [4.61, 93.26]
307                                                   [6.23, 93.1]
308                                                   [8.19, 92.26]
309                                                   [8.71, 91.84]
310                                                   [9.86, 91.47]
311                                                   [10.53, 91.04]
312                                                   [13.84, 91]
313                                                   [14.5, 91.11]
314                                                   [16.97, 91.27]
315                                                   [20.59, 91.76]
316                                                   [23.3, 91.64]
317                                                   [30.34, 91.85]
318                                                   [35.29, 91.92]
319                                                   [116.73, 92.96]
320 *%-----------------|-------------------------------------------------------|
321 ADD HYD             NHYDsum=["J7"], NHYDs to add=["R8"+"R7"]
322 *%-----------------|-------------------------------------------------------|
323 * NOTE: Cross-section number 7 is taken from HEC-RAS Model
324 ROUTE CHANNEL       NHYDout=["R9"], NHYDin=["J7"], RDT=[1](min),
325                     CHLGTH=[29.445](m), CHSLOPE=[0.887](%), FPSLOPE=[0.887](%),
326                     SECNUM=[7], NSEG=[3],
327                       ( SEGROUGH, SEGDIST (m))=[0.08,1.5 -0.035,22.44 0.08,100.08] NSEG
                          times
328                       ( DISTANCE (m), ELEVATION (m))=[0, 93.4]
329                                                   [1.5, 93.63]
330                                                   [3.13, 93.62]
331                                                   [4.76, 93.28]
332                                                   [5.3, 93.25]
333                                                   [6.52, 93.08]
334                                                   [6.96, 92.95]
335                                                   [10.57, 90.95]
336                                                   [13.59, 90.67]
337                                                   [15.83, 90.72]
338                                                   [16.42, 90.85]
339                                                   [18.66, 91.76]
340                                                   [20.82, 91.86]
341                                                   [22.44, 91.92]
342                                                   [27.84, 91.98]
343                                                   [30.15, 91.96]
344                                                   [100.08, 92.61]
345 *%-----------------|-------------------------------------------------------|
346 ADD HYD             NHYDsum=["J8"], NHYDs to add=["EXT9"+"R9"+"EXT8"+"R5"]
347 *%-----------------|-------------------------------------------------------|
348 * Note: The pipe needs to be adjusted based on the Culvert-under-railway information
349 ROUTE PIPE          PTYPE=[1]circ, NHYDout=["Outlet"], RNUMBER=[1.0],
350                     PDIAM=[525](mm), PLNGTH=[8.407](m), PROUGH=[0.013],
                        PSLOPE=[0.0001](m/m),
351                     NHYDin=["J8"], RDT=[1](min)
352 *%-----------------|-------------------------------------------------------|
353 *#########################################################################
354 *# STORMS
355 *#########################################################################
356 *%  2-Year, 3-Hour Chicago Storm
357 *START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[002]
358 *                    ["002YC3H.stm"] <--storm filename, one per line for NSTORM time
359 *%-----------------|-------------------------------------------------------|
360 *%  5-Year, 3-Hour Chicago Storm
361 START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[005]
362                     ["005YC3H.stm"] <--storm filename, one per line for NSTORM time
363 *%-----------------|-------------------------------------------------------|
364 *%  10-Year, 3-Hour Chicago Storm
365 START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[010]
366                     ["010YC3H.stm"] <--storm filename, one per line for NSTORM time
367 *%-----------------|-------------------------------------------------------|
368 *%  25-Year, 3-Hour Chicago Storm
369 START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[025]
```

```
                    ["025YC3H.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|-------------------------------------------------------------|
*%  50-Year, 3-Hour Chicago Storm
START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[050]
                    ["050YC3H.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|-------------------------------------------------------------|
*%  100-Year, 3-Hour Chicago Storm
START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[099]
                    ["100YC3H.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|-------------------------------------------------------------|
*%  2-Year, 24-Hour SCS Storm
START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[102]
                    ["SC24002x.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|-------------------------------------------------------------|
*%  5-Year, 24-Hour SCS Storm
START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[105]
                    ["SC24005x.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|-------------------------------------------------------------|
*%  10-Year, 24-Hour SCS Storm
START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[110]
                    ["SC24010x.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|-------------------------------------------------------------|
*%  25-Year, 24-Hour SCS Storm
START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[125]
                    ["SC24025x.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|-------------------------------------------------------------|
*%  50-Year, 24-Hour SCS Storm
START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[150]
                    ["SC24050x.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|-------------------------------------------------------------|
*%  100-Year, 24-Hour SCS Storm
START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[199]
                    ["SC24100x.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|-------------------------------------------------------------|
*%  July 1st, 1979 Storm - Ottawa International Airport
START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[1979]
                    ["19790701.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|-------------------------------------------------------------|
*%  August 4th, 1988 Storm - Ottawa International Airport
START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[1988]
                    ["19880804.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|-------------------------------------------------------------|
*%  August 8th, 1996 Storm - Ottawa International Airport
START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[1996]
                    ["19960808.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|-------------------------------------------------------------|
*%  100-Year, 3-Hour Chicago Storm + 20%
START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[9999]
                    ["100YC3H+.STM"] <--storm filename, one per line for NSTORM time
*%-----------------|-------------------------------------------------------------|
FINISH
```

```
00001>  ================================================================================
00002>
00003>  SSSSS   W   W   M   M   H   H   Y   Y   M   M    OOO          222     000    11   5555   ========
00004>  S       W W W   MM MM   H   H    Y Y    MM MM   O   O           2   0   0  111   5       Ver 5.500
00005>  SSSSS   W W W   M M M   HHHHH     Y     M M M   O   O          2    0   0   11   5       FEB  2015
00006>      S    W W    M   M   H   H     Y     M   M   O   O        222    0   0   11     5     ========
00007>  SSSSS    W W    M   M   H   H     Y     M   M    OOO         2      0   0  111   5      # 2549237
00008>
00009>         StormWater Management HYdrologic Model                 222     000    11   555    ========
00010>
00011>  ********************************************************************************
00012>  ***********************************  SWMHYMO Ver 5.500  ************************
00013>  ***********************  A single event and continuous hydrologic simulation model  ***********************
00014>  ***********************        based on the principles of HYMO and its successors     ***********************
00015>  ***********************                 OTTHYMO-83 and OTTHYMO-89.                    ***********************
00016>  ********************************************************************************
00017>  ***********************  Distributed by:  J.F. Sabourin and Associates Inc.          ***********************
00018>  ***********************                   Ottawa,  Ontario: (613) 836-3884           ***********************
00019>  ***********************                   Gatineau, Quebec: (819) 243-6858           ***********************
00020>  ***********************                   E-Mail: swmhymo@jfsa.com                   ***********************
00021>  ********************************************************************************
00022>
00023>  ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
00024>  ++++++++++++++++++  Licensed user: JFSAinc.                          ++++++++++++++++++
00025>  ++++++++++++++++++                 Ottawa                SERIAL#:2549237            ++++++++++++++++++
00026>  ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
00027>
00028>  ***********************                ++++++ PROGRAM ARRAY DIMENSIONS ++++++          ***********************
00029>  ***********************                Maximum value for ID numbers  :    11          ***********************
00030>  ***********************                Max. number of rainfall points: 105408         ***********************
00031>  ***********************                Max. number of flow points    : 105408         ***********************
00032>  ********************************************************************************
00033>
00034>
00035>  ******************************  S U M M A R Y   O U T P U T  ************************
00036>  ********************************************************************************
00037>  *                                                                              *
00038>  *                    RUN DATE: 2025-09-10     TIME: 20:42:32     RUN COUNTER: 011829  *
00039>  ********************************************************************************
00040>  * Input   file: C:\Temp\Fox Run\20250205-PreDev\Ott_St-Pre_v04.dat               *
00041>  * Output  file: C:\Temp\Fox Run\20250205-PreDev\Ott_St-Pre_v04.out               *
00042>  * Summary file: C:\Temp\Fox Run\20250205-PreDev\Ott_St-Pre_v04.sum               *
00043>  * User comments:                                                               *
00044>  * 1:_____________________________________________________________________________*
00045>  * 2:_____________________________________________________________________________*
00046>  * 3:_____________________________________________________________________________*
00047>  ********************************************************************************
00048>
00049>
00050> #*******************************************************************************
00051> #  SWMHYMO  / INPUT DATA FILE
00052> #*******************************************************************************
00053> #  Project Name  : [5923 Ottawa St]
00054> #  Project Number: [P2710(e01)]
00055> #  Date          : [2025 FEB 05]
00056> #  Modeller      : [MM]
00057> #  Company       : JFSA Canada Inc.
00058> #  License #     : 2549237
00059> #*******************************************************************************
00060> # Model developed to simulate runoff from subcatchments under pre development conditions
00061> #*******************************************************************************
00062>   ** END OF RUN :   1
00063>
00064> ********************************************************************************
00065>
00066>
00067>
00068>
00069>
00070>  RUN#:COMMAND#
00071> R0002:C00001------------------------------------------------------------------------
00072>       START
00073>       [TZERO =    .00 hrs on       0]
00074>       [METOUT=   2    (1=imperial, 2=metric output)]
00075>       [NSTORM=   1 ]
00076>       [NRUN  = 0002 ]
00077> #*******************************************************************************
00078> #  SWMHYMO  / INPUT DATA FILE
00079> #*******************************************************************************
00080> #  Project Name  : [5923 Ottawa St]
00081> #  Project Number: [P2710(e01)]
00082> #  Date          : [2025 FEB 05]
00083> #  Modeller      : [MM]
00084> #  Company       : JFSA Canada Inc.
00085> #  License #     : 2549237
00086> #*******************************************************************************
00087> # Model developed to simulate runoff from subcatchments under pre development conditions
00088> #*******************************************************************************
00089> R0002:C00002------------------------------------------------------------------------
00090>       READ STORM
00091>        Filename = STORM.001
00092>        Comment  = CHICAGO STORM 2 Year, 3 Hours
00093>        [SDT=10.00:SDUR=   3.00:PTOT=  31.86]
00094> #*******************************************************************************
00095> # EXT1
00096> #*******************************************************************************
00097> R0002:C00003-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00098>       CALIB NASHYD           1.0 01:EXT1          3.21     .037 No_date    1:58    8.15 .256     .000
00099>         [CN= 80.0: N= 3.00: Tp=  .72]
00100> #*******************************************************************************
00101> # EXT2
00102> #*******************************************************************************
00103> R0002:C00004-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00104>       CALIB NASHYD           1.0 01:EXT2           .28     .007 No_date    1:25   10.26 .322     .000
00105>         [CN= 85.0: N= 3.00: Tp=  .33]
00106> #*******************************************************************************
00107> # EXT3
00108> #*******************************************************************************
00109> R0002:C00005-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00110>       CALIB NASHYD           1.0 01:EXT3           .56     .011 No_date    1:24    8.15 .256     .000
00111>         [CN= 80.0: N= 3.00: Tp=  .32]
00112> #*******************************************************************************
00113> # EXT4
00114> #*******************************************************************************
00115> R0002:C00006-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00116>       CALIB NASHYD           1.0 01:EXT4           .31     .006 No_date    1:22    7.80 .245     .000
00117>         [CN= 79.0: N= 3.00: Tp=  .29]
00118> #*******************************************************************************
00119> # EXT5
00120> #*******************************************************************************
00121> R0002:C00007-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00122>       CALIB NASHYD           1.0 01:EXT5           .59     .008 No_date    1:36    6.88 .216     .000
00123>         [CN= 76.0: N= 3.00: Tp=  .45]
00124> #*******************************************************************************
00125> # EXT6
00126> #*******************************************************************************
00127> R0002:C00008-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00128>       CALIB NASHYD           1.0 01:EXT6           .86     .015 No_date    1:44   10.27 .322     .000
00129>         [CN= 85.0: N= 3.00: Tp=  .56]
00130> #*******************************************************************************
00131> # EXT7
00132> #*******************************************************************************
00133> R0002:C00009-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00134>       CALIB NASHYD           1.0 01:EXT7           .47     .011 No_date    1:24    9.33 .293     .000
00135>         [CN= 83.0: N= 3.00: Tp=  .32]
00136> #*******************************************************************************
00137> # EXT8
00138> #*******************************************************************************
00139> R0002:C00010-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00140>       CALIB NASHYD           1.0 01:EXT8           .83     .013 No_date    1:33    7.81 .245     .000
00141>         [CN= 79.0: N= 3.00: Tp=  .42]
00142> #*******************************************************************************
00143> # EXT9
00144> #*******************************************************************************
00145> R0002:C00011-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00146>       CALIB NASHYD           1.0 01:EXT9          3.57     .045 No_date    1:38    6.88 .216     .000
00147>         [CN= 76.0: N= 3.00: Tp=  .48]
00148> #*******************************************************************************
00149> # EXT9a
00150> #*******************************************************************************
00151> R0002:C00012-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00152>       CALIB NASHYD           1.0 01:EXT9a          .01     .001 No_date    1:00    7.47 .234     .000
00153>         [CN= 78.0: N= 3.00: Tp=  .04]
00154> #*******************************************************************************
00155> # EXT10
00156> #*******************************************************************************
00157> R0002:C00013-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00158>       CALIB NASHYD           1.0 01:EXT10          .20     .002 No_date    1:34    5.64 .177     .000
00159>         [CN= 71.0: N= 3.00: Tp=  .42]
00160> #*******************************************************************************
00161> # Pre2
00162> #*******************************************************************************
00163> R0002:C00014-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00164>       CALIB NASHYD           1.0 01:Pre2           .57     .008 No_date    1:36    7.48 .235     .000
00165>         [CN= 78.0: N= 3.00: Tp=  .46]
00166> #*******************************************************************************
00167> # Pre9
00168> #*******************************************************************************
00169> R0002:C00015-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00170>       CALIB NASHYD           1.0 01:Pre9           .83     .007 No_date    1:52    5.65 .177     .000
00171>         [CN= 71.0: N= 3.00: Tp=  .64]
00172> #*******************************************************************************
00173> # Pre10
00174> #*******************************************************************************
00175> R0002:C00016-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00176>       CALIB NASHYD           1.0 01:Pre10          .80     .011 No_date    1:22    5.65 .177     .000
00177>         [CN= 71.0: N= 3.00: Tp=  .29]
00178> #*******************************************************************************
00179> # Pre11
00180> #*******************************************************************************
00181> R0002:C00017-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00182>       CALIB NASHYD           1.0 01:Pre11          .07     .002 No_date    1:15    7.47 .235     .000
00183>         [CN= 78.0: N= 3.00: Tp=  .21]
00184> #*******************************************************************************
00185> R0002:C00018-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00186>       ADD HYD                1.0 02:EXT2           .28     .007 No_date    1:25   10.26  n/a     .000
00187>                            +  1.0 02:Pre2           .57     .008 No_date    1:36    7.48  n/a     .000
00188>                          SUM=   1.0 01:J1           .85     .015 No_date    1:30    8.41  n/a     .000
00189> R0002:C00019-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00190>       ROUTE CHANNEL     ->   1.0 02:J1           .85     .015 No_date    1:30    8.41  n/a     .000
00191>        [RDT= 1.00] out<-     1.0 01:R1           .85     .014 No_date    1:40    8.41  n/a     .000
00192>         [L/S/n=  143./ .394/.035]
00193>         [Vmax=  .240:Dmax=  .082]
00194> R0002:C00020-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00195>       ADD HYD                1.0 02:R1           .85     .014 No_date    1:40    8.41  n/a     .000
00196>                            +  1.0 02:EXT3          .56     .011 No_date    1:24    8.15  n/a     .000
00197>                            +  1.0 02:EXT1         3.21     .037 No_date    1:58    8.15  n/a     .000
00198>                          SUM=   1.0 01:J2          4.62     .057 No_date    1:46    8.20  n/a     .000
00199> R0002:C00021-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00200>       ROUTE CHANNEL     ->   1.0 02:J2          4.62     .057 No_date    1:46    8.20  n/a     .000
00201>        [RDT= 1.00] out<-     1.0 01:R2          4.62     .057 No_date    1:49    8.20  n/a     .000
00202>         [L/S/n=   73./ .425/.035]
00203>         [Vmax=  .350:Dmax=  .155]
00204> R0002:C00022-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00205>       ADD HYD                1.0 02:R2          4.62     .057 No_date    1:49    8.20  n/a     .000
00206>                            +  1.0 02:EXT4          .31     .006 No_date    1:22    7.80  n/a     .000
00207>                          SUM=   1.0 01:J3          4.93     .061 No_date    1:46    8.17  n/a     .000
00208> R0002:C00023-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00209>       ROUTE CHANNEL     ->   1.0 02:J3          4.93     .061 No_date    1:46    8.17  n/a     .000
00210>        [RDT= 1.00] out<-     1.0 01:R3          4.93     .060 No_date    1:52    8.17  n/a     .000
00211>         [L/S/n=   92./ .274/.035]
00212>         [Vmax=  .288:Dmax=  .161]
00213> R0002:C00024-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00214>       ADD HYD                1.0 02:R3          4.93     .060 No_date    1:52    8.17  n/a     .000
00215>                            +  1.0 02:EXT5          .59     .008 No_date    1:36    6.88  n/a     .000
00216>                          SUM=   1.0 01:J4          5.52     .067 No_date    1:50    8.04  n/a     .000
00217> R0002:C00025-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00218>       ROUTE CHANNEL     ->   1.0 02:J4          5.52     .067 No_date    1:50    8.04  n/a     .000
00219>        [RDT= 1.00] out<-     1.0 01:R4          5.52     .061 No_date    2:05    8.04  n/a     .000
00220>         [L/S/n=  251./ .190/.035]
00221>         [Vmax=  .266:Dmax=  .173]
00222> R0002:C00026-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00223>       ADD HYD                1.0 02:R4          5.52     .061 No_date    2:05    8.04  n/a     .000
00224>                            +  1.0 02:EXT6          .86     .015 No_date    1:44   10.27  n/a     .000
00225>                            +  1.0 02:EXT7          .47     .011 No_date    1:24    9.33  n/a     .000
00226>                          SUM=   1.0 01:J5          6.86     .080 No_date    1:59    8.41  n/a     .000
00227> R0002:C00027-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00228>       ROUTE CHANNEL     ->   1.0 02:J5          6.86     .080 No_date    1:59    8.41  n/a     .000
00229>        [RDT= 1.00] out<-     1.0 01:R5          6.86     .078 No_date    2:07    8.41  n/a     .000
00230>         [L/S/n=  237./ .644/.035]
00231>         [Vmax=  .432:Dmax=  .166]
00232> R0002:C00028-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00233>       ROUTE CHANNEL     ->   1.0 02:Pre10         .80     .011 No_date    1:22    5.65  n/a     .000
00234>        [RDT= 1.00] out<-     1.0 01:R6          .80     .011 No_date    1:25    5.65  n/a     .000
00235>         [L/S/n=   77./ .776/.035]
00236>         [Vmax=  .492:Dmax=  .008]
00237> R0002:C00029-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00238>       ROUTE CHANNEL     ->   1.0 02:Pre9           .83     .007 No_date    1:52    5.65  n/a     .000
00239>        [RDT= 1.00] out<-     1.0 01:R7          .83     .007 No_date    1:56    5.65  n/a     .000
00240>         [L/S/n=  159./1.576/.035]
00241>         [Vmax=  .797:Dmax=  .002]
00242> R0002:C00030-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00243>       ADD HYD                1.0 02:R6          .80     .016 No_date    4:19    5.76  n/a     .000
00244>                            +  1.0 02:EXT10         .20     .002 No_date    1:34    5.64  n/a     .000
00245>                          SUM=   1.0 01:J6          1.01     .016 No_date    4:19    5.74  n/a     .000
00246> R0002:C00031-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00247>       ROUTE CHANNEL     ->   1.0 02:J6          1.01     .016 No_date    4:19    5.74  n/a     .000
00248>        [RDT= 1.00] out<-     1.0 01:R8          1.01     .013 No_date    1:30    5.74  n/a     .000
00249>         [L/S/n=   79./ .522/.035]
00250>         [Vmax=  .423:Dmax=  .011]
00251> R0002:C00032-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00252>       ADD HYD                1.0 02:R8          1.01     .013 No_date    1:30    5.74  n/a     .000
00253>                            +  1.0 02:R7           .83     .007 No_date    1:56    5.67  n/a     .000
00254>                          SUM=   1.0 01:J7          1.83     .019 No_date    1:35    5.71  n/a     .000
00255> R0002:C00033-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00256>       ROUTE CHANNEL     ->   1.0 02:J7          1.83     .019 No_date    1:35    5.71  n/a     .000
00257>        [RDT= 1.00] out<-     1.0 01:R9          1.83     .019 No_date    1:36    5.71  n/a     .000
00258>         [L/S/n=   29./ .887/.035]
00259>         [Vmax=  .543:Dmax=  .013]
00260> R0002:C00034-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00261>       ADD HYD                1.0 02:EXT9          3.57     .045 No_date    1:38    6.88  n/a     .000
00262>                            +  1.0 02:R9           1.83     .019 No_date    1:36    5.71  n/a     .000
00263>                            +  1.0 02:EXT8          .83     .013 No_date    1:33    7.81  n/a     .000
00264>                            +  1.0 02:R5           6.86     .078 No_date    2:07    8.41  n/a     .000
00265>                          SUM=   1.0 01:J8         13.10     .141 No_date    1:54    7.58  n/a     .000
00266> R0002:C00035-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00267>       ROUTE PIPE        ->   1.0 02:J8         13.10     .141 No_date    1:54    7.58  n/a     .000
00268> *     [RDT= 1.00] out<-     1.0 01:Outlet      13.10     .141 No_date    1:55    7.58  n/a     .000
00269>         [L/S/n=   9./ .010/.013]
00270>         [Vmax=  .304:Dmax=  .672]
00271>         [Din=  .53:Dused=  .82)
00272> ###############################################################################
00273> # STORMS
00274> ###############################################################################
00275>   ** END OF RUN :   4
00276>
00277> ********************************************************************************
00278>
00279>
00280>
00281>
00282>
00283>  RUN#:COMMAND#
00284> R0005:C00001------------------------------------------------------------------------
00285>       START
00286>       [TZERO =    .00 hrs on       0]
00287>       [METOUT=   2    (1=imperial, 2=metric output)]
00288>       [NSTORM=   1 ]
00289>       [NRUN  = 0005 ]
00290> #*******************************************************************************
00291> #  SWMHYMO  / INPUT DATA FILE
00292> #*******************************************************************************
00293> #  Project Name  : [5923 Ottawa St]
00294> #  Project Number: [P2710(e01)]
00295> #  Date          : [2025 FEB 05]
00296> #  Modeller      : [MM]
00297> #  Company       : JFSA Canada Inc.
00298> #  License #     : 2549237
00299> #*******************************************************************************
00300> # Model developed to simulate runoff from subcatchments under pre development conditions
00301> #*******************************************************************************
00302> R0005:C00002------------------------------------------------------------------------
00303>       READ STORM
00304>        Filename = STORM.001
00305>        Comment  = CHICAGO STORM  5 Year, 3 Hours
00306>        [SDT=10.00:SDUR=   3.00:PTOT=  42.51]
00307> #*******************************************************************************
00308> # EXT1
00309> #*******************************************************************************
00310> R0005:C00003-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00311>       CALIB NASHYD           1.0 01:EXT1          3.21     .066 No_date    1:55   14.13 .332     .000
00312>         [CN= 80.0: N= 3.00: Tp=  .72]
00313> #*******************************************************************************
00314> # EXT2
00315> #*******************************************************************************
00316> R0005:C00004-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00317>       CALIB NASHYD           1.0 01:EXT2           .28     .012 No_date    1:23   17.32 .407     .000
00318>         [CN= 85.0: N= 3.00: Tp=  .33]
00319> #*******************************************************************************
00320> # EXT3
00321> #*******************************************************************************
00322> R0005:C00005-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00323>       CALIB NASHYD           1.0 01:EXT3           .56     .020 No_date    1:23   14.13 .332     .000
00324>         [CN= 80.0: N= 3.00: Tp=  .32]
00325> #*******************************************************************************
00326> # EXT4
00327> #*******************************************************************************
00328> R0005:C00006-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00329>       CALIB NASHYD           1.0 01:EXT4           .31     .011 No_date    1:21   13.59 .320     .000
00330>         [CN= 79.0: N= 3.00: Tp=  .29]
00331> #*******************************************************************************
00332> # EXT5
00333> #*******************************************************************************
00334> R0005:C00007-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00335>       CALIB NASHYD           1.0 01:EXT5           .59     .014 No_date    1:34   12.13 .285     .000
00336>         [CN= 76.0: N= 3.00: Tp=  .45]
00337> #*******************************************************************************
00338> # EXT6
00339> #*******************************************************************************
00340> R0005:C00008-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00341>       CALIB NASHYD           1.0 01:EXT6           .86     .026 No_date    1:42   17.32 .407     .000
00342>         [CN= 85.0: N= 3.00: Tp=  .56]
00343> #*******************************************************************************
00344> # EXT7
00345> #*******************************************************************************
00346> R0005:C00009-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00347>       CALIB NASHYD           1.0 01:EXT7           .47     .019 No_date    1:23   15.94 .375     .000
00348>         [CN= 83.0: N= 3.00: Tp=  .32]
00349> #*******************************************************************************
00350> # EXT8
00351> #*******************************************************************************
00352> R0005:C00010-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00353>       CALIB NASHYD           1.0 01:EXT8           .83     .024 No_date    1:31   13.59 .320     .000
00354>         [CN= 79.0: N= 3.00: Tp=  .42]
00355> #*******************************************************************************
00356> # EXT9
00357> #*******************************************************************************
00358> R0005:C00011-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00359>       CALIB NASHYD           1.0 01:EXT9          3.57     .083 No_date    1:36   12.13 .285     .000
00360>         [CN= 76.0: N= 3.00: Tp=  .48]
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00361> #*******************************************************************************
00362> # EXT9a
00363> #*******************************************************************************
00364> R0005:C00012-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00365>      CALIB NASHYD            1.0 01:EXT9a          .01     .001 No_date    1:00   13.07 .307     .000
00366>        [CN= 78.0: N= 3.00: Tp=  .04]
00367> #*******************************************************************************
00368> # EXT10
00369> #*******************************************************************************
00370> R0005:C00013-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00371>      CALIB NASHYD            1.0 01:EXT10          .20     .004 No_date    1:32   10.11 .238     .000
00372>        [CN= 71.0: N= 3.00: Tp=  .42]
00373> #*******************************************************************************
00374> # Pre2
00375> #*******************************************************************************
00376> R0005:C00014-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00377>      CALIB NASHYD            1.0 01:Pre2           .57     .015 No_date    1:35   13.08 .308     .000
00378>        [CN= 78.0: N= 3.00: Tp=  .46]
00379> #*******************************************************************************
00380> # Pre9
00381> #*******************************************************************************
00382> R0005:C00015-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00383>      CALIB NASHYD            1.0 01:Pre9           .83     .013 No_date    1:50   10.11 .238     .000
00384>        [CN= 71.0: N= 3.00: Tp=  .64]
00385> #*******************************************************************************
00386> # Pre10
00387> #*******************************************************************************
00388> R0005:C00016-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00389>      CALIB NASHYD            1.0 01:Pre10          .80     .021 No_date    1:21   10.11 .238     .000
00390>        [CN= 71.0: N= 3.00: Tp=  .29]
00391> #*******************************************************************************
00392> # Pre11
00393> #*******************************************************************************
00394> R0005:C00017-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00395>      CALIB NASHYD            1.0 01:Pre11          .07     .003 No_date    1:14   13.07 .308     .000
00396>        [CN= 78.0: N= 3.00: Tp=  .21]
00397> #*******************************************************************************
00398> R0005:C00018-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00399>      ADD HYD                 .28     .012 No_date    1:23   17.32  n/a     .000
00400>                      +       1.0 02:Pre2           .57     .015 No_date    1:35   13.08  n/a     .000
00401>                    SUM=      1.0 01:J1             .85     .026 No_date    1:29   14.50  n/a     .000
00402> R0005:C00019-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00403>      ROUTE CHANNEL   ->      1.0 02:J1             .85     .026 No_date    1:29   14.50  n/a     .000
00404>        [RDT= 1.00] out<-     1.0 01:R1             .85     .025 No_date    1:36   14.50  n/a     .000
00405>          [L/S/n=  143./ .394/.035]
00406>          (Vmax=  .291:Dmax=  .109)
00407> R0005:C00020-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00408>      ADD HYD                 .56     .025 No_date    1:36   14.50  n/a     .000
00409>                      +       1.0 02:EXT3           .56     .020 No_date    1:23   14.13  n/a     .000
00410>                      +       1.0 02:EXT1          3.21     .066 No_date    1:55   14.13  n/a     .000
00411>                    SUM=      1.0 01:J2            4.62     .102 No_date    1:43   14.20  n/a     .000
00412> R0005:C00021-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00413>      ROUTE CHANNEL   ->      1.0 02:J2            4.62     .102 No_date    1:43   14.20  n/a     .000
00414>        [RDT= 1.00] out<-     1.0 01:R2            4.62     .101 No_date    1:45   14.20  n/a     .000
00415>          [L/S/n=   73./ .425/.035]
00416>          (Vmax=  .412:Dmax=  .195)
00417> R0005:C00022-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00418>      ADD HYD                4.62     .101 No_date    1:45   14.20  n/a     .000
00419>                      +       1.0 02:EXT4           .31     .011 No_date    1:21   13.59  n/a     .000
00420>                    SUM=      1.0 01:J3            4.93     .109 No_date    1:43   14.16  n/a     .000
00421> R0005:C00023-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00422>      ROUTE CHANNEL   ->      1.0 02:J3            4.93     .109 No_date    1:43   14.16  n/a     .000
00423>        [RDT= 1.00] out<-     1.0 01:R3            4.93     .108 No_date    1:47   14.16  n/a     .000
00424>          [L/S/n=   92./ .274/.035]
00425>          (Vmax=  .337:Dmax=  .202)
00426> R0005:C00024-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00427>      ADD HYD                4.93     .108 No_date    1:47   14.16  n/a     .000
00428>                      +       1.0 02:EXT5           .59     .014 No_date    1:34   12.13  n/a     .000
00429>                    SUM=      1.0 01:J4            5.52     .121 No_date    1:45   13.94  n/a     .000
00430> R0005:C00025-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00431>      ROUTE CHANNEL   ->      1.0 02:J4            5.52     .121 No_date    1:45   13.94  n/a     .000
00432>        [RDT= 1.00] out<-     1.0 01:R4            5.52     .112 No_date    1:58   13.94  n/a     .000
00433>          [L/S/n=  251./ .190/.035]
00434>          (Vmax=  .323:Dmax=  .221)
00435> R0005:C00026-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00436>      ADD HYD                5.52     .112 No_date    1:58   13.94  n/a     .000
00437>                      +       1.0 02:EXT6           .86     .026 No_date    1:42   17.32  n/a     .000
00438>                      +       1.0 02:EXT7           .47     .019 No_date    1:23   15.94  n/a     .000
00439>                    SUM=      1.0 01:J5            6.86     .147 No_date    1:53   14.51  n/a     .000
00440> R0005:C00027-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00441>      ROUTE CHANNEL   ->      1.0 02:J5            6.86     .147 No_date    1:53   14.51  n/a     .000
00442>        [RDT= 1.00] out<-     1.0 01:R5            6.86     .144 No_date    2:00   14.51  n/a     .000
00443>          [L/S/n=  237./ .644/.035]
00444>          (Vmax=  .519:Dmax=  .210)
00445> R0005:C00028-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00446>      ROUTE CHANNEL   ->      1.0 02:Pre10          .80     .021 No_date    1:21   10.11  n/a     .000
00447>        [RDT= 1.00] out<-     1.0 01:R6             .80     .021 No_date    1:24   10.11  n/a     .000
00448>          [L/S/n=   77./ .776/.035]
00449>          (Vmax=  .492:Dmax=  .015)
00450> R0005:C00029-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00451>      ROUTE CHANNEL   ->      1.0 02:Pre9           .83     .013 No_date    1:50   10.11  n/a     .000
00452>        [RDT= 1.00] out<-     1.0 01:R7             .83     .013 No_date    1:54   10.11  n/a     .000
00453>          [L/S/n=  159./1.576/.035]
00454>          (Vmax=  .797:Dmax=  .004)
00455> R0005:C00030-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00456>      ADD HYD                 .80     .021 No_date    1:24   10.26  n/a     .000
00457>                      +       1.0 02:EXT10          .20     .004 No_date    1:32   10.11  n/a     .000
00458>                    SUM=      1.0 01:J6            1.01     .025 No_date    1:25   10.23  n/a     .000
00459> R0005:C00031-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00460>      ROUTE CHANNEL   ->      1.0 02:J6            1.01     .025 No_date    1:25   10.23  n/a     .000
00461>        [RDT= 1.00] out<-     1.0 01:R8            1.01     .025 No_date    1:28   10.23  n/a     .000
00462>          [L/S/n=   79./ .522/.035]
00463>          (Vmax=  .423:Dmax=  .218)
00464> R0005:C00032-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00465>      ADD HYD                1.01     .025 No_date    1:28   10.23  n/a     .000
00466>                      +       1.0 02:R7             .83     .013 No_date    1:54   10.14  n/a     .000
00467>                    SUM=      1.0 01:J7            1.83     .035 No_date    1:34   10.19  n/a     .000
00468> R0005:C00033-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00469>      ROUTE CHANNEL   ->      1.0 02:J7            1.83     .035 No_date    1:34   10.19  n/a     .000
00470>        [RDT= 1.00] out<-     1.0 01:R9            1.83     .035 No_date    1:34   10.19  n/a     .000
00471>          [L/S/n=   29./ .887/.035]
00472>          (Vmax=  .543:Dmax=  .024)
00473> R0005:C00034-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00474>      ADD HYD                3.57     .083 No_date    1:36   12.13  n/a     .000
00475>                      +       1.0 02:R9             .83     .035 No_date    1:34   10.20  n/a     .000
00476>                      +       1.0 02:EXT8           .83     .024 No_date    1:31   13.59  n/a     .000
00477>                      +       1.0 02:R5            6.86     .144 No_date    2:00   14.51  n/a     .000
00478>                    SUM=      1.0 01:J8           13.10     .264 No_date    1:49   13.20  n/a     .000
00479> R0005:C00035-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00480>      ROUTE PIPE      ->      1.0 02:J8            13.10     .264 No_date    1:49   13.20  n/a     .000
00481> *    [RDT= 1.00] out<-     1.0 01:Outlet        13.10     .264 No_date    1:49   13.20  n/a     .000
00482>          [L/S/n=    8./ .010/.013]
00483>          (Vmax=  .356:Dmax=  .851)
00484>          [Din=  .53:Dused= 1.04)
00485> ###############################################################################
00486> # STORMS
00487> ###############################################################################
00488>  ** END OF RUN :   9
00489>
00490> *******************************************************************************
00491>
00492>
00493>
00494>
00495>
00496>  RUN#:COMMAND#
00497> R0010:C00001-----------------------------------------------------------------------
00498>       START
00499>        [TZERO =    .00 hrs on        0]
00500>        [METOUT=   2    (1=imperial, 2=metric output)]
00501>        [NSTORM=   1 ]
00502>        [NRUN  = 0010 ]
00503> #*******************************************************************************
00504> #  SWMHYMO  / INPUT DATA FILE
00505> #*******************************************************************************
00506> #  Project Name  : [5923 Ottawa St]
00507> #  Project Number: [P2710(e01)]
00508> #  Date          : [2025 FEB 05]
00509> #  Modeller      : [MM]
00510> #  Company       : JFSA Canada Inc.
00511> #  License #     : 2549237
00512> #*******************************************************************************
00513> # Model developed to simulate runoff from subcatchments under pre development conditions
00514> #*******************************************************************************
00515> R0010:C00002-----------------------------------------------------------------------
00516>       READ STORM
00517>        Filename = STORM.001
00518>        Comment  = CHICAGO STORM 10 Year, 3 Hours
00519>        [SDT=10.00:SDUR=   3.00:PTOT=  49.50]
00520> #*******************************************************************************
00521> # EXT1
00522> #*******************************************************************************
00523> R0010:C00003-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00524>      CALIB NASHYD            1.0 01:EXT1          3.21     .088 No_date    1:54   18.55 .375     .000
00525>        [CN= 80.0: N= 3.00: Tp=  .72]
00526> #*******************************************************************************
00527> # EXT2
00528> #*******************************************************************************
00529> R0010:C00004-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00530>      CALIB NASHYD            1.0 01:EXT2           .28     .016 No_date    1:23   22.42 .453     .000
00531>        [CN= 85.0: N= 3.00: Tp=  .33]
00532> #*******************************************************************************
00533> # EXT3
00534> #*******************************************************************************
00535> R0010:C00005-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00536>      CALIB NASHYD            1.0 01:EXT3           .56     .027 No_date    1:23   18.55 .375     .000
00537>        [CN= 80.0: N= 3.00: Tp=  .32]
00538> #*******************************************************************************
00539> # EXT4
00540> #*******************************************************************************
00541> R0010:C00006-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00542>      CALIB NASHYD            1.0 01:EXT4           .31     .015 No_date    1:20   17.89 .361     .000
00543>        [CN= 79.0: N= 3.00: Tp=  .29]
00544> #*******************************************************************************
00545> # EXT5
00546> #*******************************************************************************
00547> R0010:C00007-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00548>      CALIB NASHYD            1.0 01:EXT5           .59     .019 No_date    1:33   16.07 .325     .000
00549>        [CN= 76.0: N= 3.00: Tp=  .45]
00550> #*******************************************************************************
00551> # EXT6
00552> #*******************************************************************************
00553> R0010:C00008-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00554>      CALIB NASHYD            1.0 01:EXT6           .86     .035 No_date    1:41   22.42 .453     .000
00555>        [CN= 85.0: N= 3.00: Tp=  .56]
00556> #*******************************************************************************
00557> # EXT7
00558> #*******************************************************************************
00559> R0010:C00009-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00560>      CALIB NASHYD            1.0 01:EXT7           .47     .025 No_date    1:22   20.75 .419     .000
00561>        [CN= 83.0: N= 3.00: Tp=  .32]
00562> #*******************************************************************************
00563> # EXT8
00564> #*******************************************************************************
00565> R0010:C00010-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00566>      CALIB NASHYD            1.0 01:EXT8           .83     .032 No_date    1:31   17.89 .361     .000
00567>        [CN= 79.0: N= 3.00: Tp=  .42]
00568> #*******************************************************************************
00569> # EXT9
00570> #*******************************************************************************
00571> R0010:C00011-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00572>      CALIB NASHYD            1.0 01:EXT9          3.57     .111 No_date    1:36   16.08 .325     .000
00573>        [CN= 76.0: N= 3.00: Tp=  .48]
00574> #*******************************************************************************
00575> # EXT9a
00576> #*******************************************************************************
00577> R0010:C00012-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00578>      CALIB NASHYD            1.0 01:EXT9a          .01     .001 No_date    1:00   17.25 .348     .000
00579>        [CN= 78.0: N= 3.00: Tp=  .04]
00580> #*******************************************************************************
00581> # EXT10
00582> #*******************************************************************************
00583> R0010:C00013-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00584>      CALIB NASHYD            1.0 01:EXT10          .20     .006 No_date    1:31   13.53 .273     .000
00585>        [CN= 71.0: N= 3.00: Tp=  .42]
00586> #*******************************************************************************
00587> # Pre2
00588> #*******************************************************************************
00589> R0010:C00014-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00590>      CALIB NASHYD            1.0 01:Pre2           .57     .020 No_date    1:34   17.26 .349     .000
00591>        [CN= 78.0: N= 3.00: Tp=  .46]
00592> #*******************************************************************************
00593> # Pre9
00594> #*******************************************************************************
00595> R0010:C00015-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00596>      CALIB NASHYD            1.0 01:Pre9           .83     .018 No_date    1:49   13.53 .273     .000
00597>        [CN= 71.0: N= 3.00: Tp=  .64]
00598> #*******************************************************************************
00599> # Pre10
00600> #*******************************************************************************
00601> R0010:C00016-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00602>      CALIB NASHYD            1.0 01:Pre10          .80     .029 No_date    1:21   13.53 .273     .000
00603>        [CN= 71.0: N= 3.00: Tp=  .29]
00604> #*******************************************************************************
00605> # Pre11
00606> #*******************************************************************************
00607> R0010:C00017-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00608>      CALIB NASHYD            1.0 01:Pre11          .07     .004 No_date    1:14   17.25 .348     .000
00609>        [CN= 78.0: N= 3.00: Tp=  .21]
00610> #*******************************************************************************
00611> R0010:C00018-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00612>      ADD HYD                 .28     .016 No_date    1:23   22.42  n/a     .000
00613>                      +       1.0 02:Pre2           .57     .020 No_date    1:34   17.26  n/a     .000
00614>                    SUM=      1.0 01:J1             .85     .035 No_date    1:28   18.99  n/a     .000
00615> R0010:C00019-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00616>      ROUTE CHANNEL   ->      1.0 02:J1             .85     .035 No_date    1:28   18.99  n/a     .000
00617>        [RDT= 1.00] out<-     1.0 01:R1             .85     .033 No_date    1:35   18.99  n/a     .000
00618>          [L/S/n=  143./ .394/.035]
00619>          (Vmax=  .311:Dmax=  .122)
00620> R0010:C00020-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00621>      ADD HYD                 .85     .033 No_date    1:35   18.99  n/a     .000
00622>                      +       1.0 02:EXT3           .56     .027 No_date    1:23   18.55  n/a     .000
00623>                      +       1.0 02:EXT1          3.21     .088 No_date    1:54   18.55  n/a     .000
00624>                    SUM=      1.0 01:J2            4.62     .136 No_date    1:42   18.63  n/a     .000
00625> R0010:C00021-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00626>      ROUTE CHANNEL   ->      1.0 02:J2            4.62     .136 No_date    1:42   18.63  n/a     .000
00627>        [RDT= 1.00] out<-     1.0 01:R2            4.62     .135 No_date    1:45   18.63  n/a     .000
00628>          [L/S/n=   73./ .425/.035]
00629>          (Vmax=  .444:Dmax=  .219)
00630> R0010:C00022-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00631>      ADD HYD                4.62     .135 No_date    1:45   18.63  n/a     .000
00632>                      +       1.0 02:EXT4           .31     .015 No_date    1:20   17.89  n/a     .000
00633>                    SUM=      1.0 01:J3            4.93     .145 No_date    1:42   18.59  n/a     .000
00634> R0010:C00023-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00635>      ROUTE CHANNEL   ->      1.0 02:J3            4.93     .145 No_date    1:42   18.59  n/a     .000
00636>        [RDT= 1.00] out<-     1.0 01:R3            4.93     .144 No_date    1:46   18.59  n/a     .000
00637>          [L/S/n=   92./ .274/.035]
00638>          (Vmax=  .364:Dmax=  .227)
00639> R0010:C00024-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00640>      ADD HYD                4.93     .144 No_date    1:46   18.59  n/a     .000
00641>                      +       1.0 02:EXT5           .59     .019 No_date    1:33   16.07  n/a     .000
00642>                    SUM=      1.0 01:J4            5.52     .162 No_date    1:44   18.32  n/a     .000
00643> R0010:C00025-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00644>      ROUTE CHANNEL   ->      1.0 02:J4            5.52     .162 No_date    1:44   18.32  n/a     .000
00645>        [RDT= 1.00] out<-     1.0 01:R4            5.52     .151 No_date    1:56   18.32  n/a     .000
00646>          [L/S/n=  251./ .190/.035]
00647>          (Vmax=  .352:Dmax=  .250)
00648> R0010:C00026-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00649>      ADD HYD                5.52     .151 No_date    1:56   18.32  n/a     .000
00650>                      +       1.0 02:EXT6           .86     .035 No_date    1:41   22.42  n/a     .000
00651>                      +       1.0 02:EXT7           .47     .025 No_date    1:22   20.75  n/a     .000
00652>                    SUM=      1.0 01:J5            6.86     .197 No_date    1:51   19.00  n/a     .000
00653> R0010:C00027-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00654>      ROUTE CHANNEL   ->      1.0 02:J5            6.86     .197 No_date    1:51   19.00  n/a     .000
00655>        [RDT= 1.00] out<-     1.0 01:R5            6.86     .194 No_date    1:56   19.00  n/a     .000
00656>          [L/S/n=  237./ .644/.035]
00657>          (Vmax=  .573:Dmax=  .238)
00658> R0010:C00028-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00659>      ROUTE CHANNEL   ->      1.0 02:Pre10          .80     .029 No_date    1:21   13.53  n/a     .000
00660>        [RDT= 1.00] out<-     1.0 01:R6             .80     .029 No_date    1:24   13.53  n/a     .000
00661>          [L/S/n=   77./ .776/.035]
00662>          (Vmax=  .492:Dmax=  .021)
00663> R0010:C00029-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00664>      ROUTE CHANNEL   ->      1.0 02:Pre9           .83     .018 No_date    1:49   13.53  n/a     .000
00665>        [RDT= 1.00] out<-     1.0 01:R7             .83     .018 No_date    1:53   13.53  n/a     .000
00666>          [L/S/n=  159./1.576/.035]
00667>          (Vmax=  .797:Dmax=  .005)
00668> R0010:C00030-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00669>      ADD HYD                1.01     .034 No_date    1:24   13.70  n/a     .000
00670>                      +       1.0 02:EXT10          .20     .006 No_date    1:31   13.53  n/a     .000
00671>                    SUM=      1.0 01:J6            1.01     .034 No_date    1:24   13.66  n/a     .000
00672> R0010:C00031-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00673>      ROUTE CHANNEL   ->      1.0 02:J6            1.01     .034 No_date    1:24   13.66  n/a     .000
00674>        [RDT= 1.00] out<-     1.0 01:R8            1.01     .034 No_date    1:28   13.66  n/a     .000
00675>          [L/S/n=   79./ .522/.035]
00676>          (Vmax=  .423:Dmax=  .025)
00677> R0010:C00032-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00678>      ADD HYD                1.01     .034 No_date    1:28   13.66  n/a     .000
00679>                      +       1.0 02:R7             .83     .018 No_date    1:53   13.55  n/a     .000
00680>                    SUM=      1.0 01:J7            1.83     .047 No_date    1:33   13.61  n/a     .000
00681> R0010:C00033-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00682>      ROUTE CHANNEL   ->      1.0 02:J7            1.83     .047 No_date    1:33   13.61  n/a     .000
00683>        [RDT= 1.00] out<-     1.0 01:R9            1.83     .047 No_date    1:34   13.61  n/a     .000
00684>          [L/S/n=   29./ .887/.035]
00685>          (Vmax=  .543:Dmax=  .032)
00686> R0010:C00034-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00687>      ADD HYD                3.57     .111 No_date    1:36   16.08  n/a     .000
00688>                      +       1.0 02:R9             .83     .047 No_date    1:34   13.62  n/a     .000
00689>                      +       1.0 02:EXT8           .83     .032 No_date    1:31   17.89  n/a     .000
00690>                      +       1.0 02:R5            6.86     .194 No_date    1:56   19.00  n/a     .000
00691>                    SUM=      1.0 01:J8           13.10     .361 No_date    1:47   17.38  n/a     .000
00692> R0010:C00035-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00693>      ROUTE PIPE      ->      1.0 02:J8            13.10     .361 No_date    1:47   17.38  n/a     .000
00694> *    [RDT= 1.00] out<-     1.0 01:Outlet        13.10     .361 No_date    1:47   17.38  n/a     .000
00695>          [L/S/n=    8./ .010/.013]
00696>          (Vmax=  .385:Dmax=  .957)
00697>          [Din=  .53:Dused= 1.17)
00698> ###############################################################################
00699> # STORMS
00700> ###############################################################################
00701>  ** END OF RUN :   24
00702>
00703> *******************************************************************************
00704>
00705>
00706>
00707>
00708>
00709>  RUN#:COMMAND#
00710> R0025:C00001-----------------------------------------------------------------------
00711>       START
00712>        [TZERO =    .00 hrs on        0]
00713>        [METOUT=   2    (1=imperial, 2=metric output)]
00714>        [NSTORM=   1 ]
00715>        [NRUN  = 0025 ]
00716> #*******************************************************************************
00717> #  SWMHYMO  / INPUT DATA FILE
00718> #*******************************************************************************
00719> #  Project Name  : [5923 Ottawa St]
00720> #  Project Number: [P2710(e01)]
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00721> #  Date           : [2025 FEB 05]
00722> #  Modeller       : [MM]
00723> #  Company        : JFSA Canada Inc.
00724> #  License #      : 2549237
00725> #*************************************************************************************
00726> # Model developed to simulate runoff from subcatchments under pre development conditions
00727> #*************************************************************************************
00728> R0025:C00002-------------------------------------------------------------------------------
00729>       READ STORM
00730>        Filename = STORM.001
00731>        Comment  = CHICAGO STORM   25 Year, 3 Hours
00732>        [SDT=10.00:SDUR=   3.00:PTOT=  58.23]
00733> #*************************************************************************************
00734> # EXT1
00735> #*************************************************************************************
00736> R0025:C00003-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00737>      CALIB NASHYD             1.0 01:EXT1            3.21     .118 No_date    1:53   24.50  .421     .000
00738>        [CN= 80.0: N= 3.00: Tp=  .72]
00739> #*************************************************************************************
00740> # EXT2
00741> #*************************************************************************************
00742> R0025:C00004-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00743>      CALIB NASHYD             1.0 01:EXT2            .28     .022 No_date    1:22   29.15  .501     .000
00744>        [CN= 85.0: N= 3.00: Tp=  .33]
00745> #*************************************************************************************
00746> # EXT3
00747> #*************************************************************************************
00748> R0025:C00005-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00749>      CALIB NASHYD             1.0 01:EXT3            .56     .036 No_date    1:22   24.50  .421     .000
00750>        [CN= 80.0: N= 3.00: Tp=  .32]
00751> #*************************************************************************************
00752> # EXT4
00753> #*************************************************************************************
00754> R0025:C00006-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00755>      CALIB NASHYD             1.0 01:EXT4            .31     .020 No_date    1:20   23.69  .407     .000
00756>        [CN= 79.0: N= 3.00: Tp=  .29]
00757> #*************************************************************************************
00758> # EXT5
00759> #*************************************************************************************
00760> R0025:C00007-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00761>      CALIB NASHYD             1.0 01:EXT5            .59     .026 No_date    1:33   21.44  .368     .000
00762>        [CN= 76.0: N= 3.00: Tp=  .45]
00763> #*************************************************************************************
00764> # EXT6
00765> #*************************************************************************************
00766> R0025:C00008-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00767>      CALIB NASHYD             1.0 01:EXT6            .86     .046 No_date    1:40   29.15  .501     .000
00768>        [CN= 85.0: N= 3.00: Tp=  .56]
00769> #*************************************************************************************
00770> # EXT7
00771> #*************************************************************************************
00772> R0025:C00009-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00773>      CALIB NASHYD             1.0 01:EXT7            .47     .034 No_date    1:22   27.17  .467     .000
00774>        [CN= 83.0: N= 3.00: Tp=  .32]
00775> #*************************************************************************************
00776> # EXT8
00777> #*************************************************************************************
00778> R0025:C00010-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00779>      CALIB NASHYD             1.0 01:EXT8            .83     .043 No_date    1:30   23.69  .407     .000
00780>        [CN= 79.0: N= 3.00: Tp=  .42]
00781> #*************************************************************************************
00782> # EXT9
00783> #*************************************************************************************
00784> R0025:C00011-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00785>      CALIB NASHYD             1.0 01:EXT9            3.57     .151 No_date    1:35   21.44  .368     .000
00786>        [CN= 76.0: N= 3.00: Tp=  .48]
00787> #*************************************************************************************
00788> # EXT9a
00789> #*************************************************************************************
00790> R0025:C00012-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00791>      CALIB NASHYD             1.0 01:EXT9a           .01     .002 No_date    1:00   22.90  .393     .000
00792>        [CN= 78.0: N= 3.00: Tp=  .04]
00793> #*************************************************************************************
00794> # EXT10
00795> #*************************************************************************************
00796> R0025:C00013-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00797>      CALIB NASHYD             1.0 01:EXT10           .20     .008 No_date    1:31   18.23  .313     .000
00798>        [CN= 71.0: N= 3.00: Tp=  .42]
00799> #*************************************************************************************
00800> # Pre2
00801> #*************************************************************************************
00802> R0025:C00014-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00803>      CALIB NASHYD             1.0 01:Pre2            .57     .027 No_date    1:33   22.91  .393     .000
00804>        [CN= 78.0: N= 3.00: Tp=  .46]
00805> #*************************************************************************************
00806> # Pre9
00807> #*************************************************************************************
00808> R0025:C00015-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00809>      CALIB NASHYD             1.0 01:Pre9            .83     .024 No_date    1:48   18.23  .313     .000
00810>        [CN= 71.0: N= 3.00: Tp=  .64]
00811> #*************************************************************************************
00812> # Pre10
00813> #*************************************************************************************
00814> R0025:C00016-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00815>      CALIB NASHYD             1.0 01:Pre10           .80     .040 No_date    1:20   18.23  .313     .000
00816>        [CN= 71.0: N= 3.00: Tp=  .29]
00817> #*************************************************************************************
00818> # Pre11
00819> #*************************************************************************************
00820> R0025:C00017-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00821>      CALIB NASHYD             1.0 01:Pre11           .07     .005 No_date    1:13   22.90  .393     .000
00822>        [CN= 78.0: N= 3.00: Tp=  .21]
00823> #*************************************************************************************
00824> R0025:C00018-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00825>      ADD HYD                  1.0 02:EXT2            .28     .022 No_date    1:22   29.15  n/a      .000
00826>                             + 1.0 02:Pre2            .57     .027 No_date    1:33   22.91  n/a      .000
00827>                        SUM=   1.0 01:J1              .85     .047 No_date    1:27   25.00  n/a      .000
00828> R0025:C00019-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00829>      ROUTE CHANNEL    ->     1.0 02:J1              .85     .047 No_date    1:27   25.00  n/a      .000
00830>        [RDT= 1.00] out<-     1.0 01:R1              .85     .045 No_date    1:34   25.00  n/a      .000
00831>         [L/S/n=  143./ .394/.035]
00832>         [Vmax=  .340:Dmax=  .139]
00833> R0025:C00020-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00834>      ADD HYD                  1.0 02:R1              .85     .045 No_date    1:34   25.00  n/a      .000
00835>                             + 1.0 02:EXT3            .56     .036 No_date    1:22   24.50  n/a      .000
00836>                             + 1.0 02:EXT1           3.21     .118 No_date    1:53   24.50  n/a      .000
00837>                        SUM=   1.0 01:J2              4.62     .181 No_date    1:41   24.59  n/a      .000
00838> R0025:C00021-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00839>      ROUTE CHANNEL    ->     1.0 02:J2              4.62     .181 No_date    1:41   24.59  n/a      .000
00840>        [RDT= 1.00] out<-     1.0 01:R2              4.62     .181 No_date    1:43   24.59  n/a      .000
00841>         [L/S/n=  73./ .425/.035]
00842>         [Vmax=  .480:Dmax=  .246]
00843> R0025:C00022-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00844>      ADD HYD                  1.0 02:R2              4.62     .181 No_date    1:43   24.59  n/a      .000
00845>                             + 1.0 02:EXT4            .31     .020 No_date    1:20   23.69  n/a      .000
00846>                        SUM=   1.0 01:J3              4.93     .194 No_date    1:40   24.54  n/a      .000
00847> R0025:C00023-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00848>      ROUTE CHANNEL    ->     1.0 02:J3              4.93     .194 No_date    1:40   24.54  n/a      .000
00849>        [RDT= 1.00] out<-     1.0 01:R3              4.93     .193 No_date    1:44   24.54  n/a      .000
00850>         [L/S/n=  92./ .274/.035]
00851>         [Vmax=  .393:Dmax=  .255]
00852> R0025:C00024-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00853>      ADD HYD                  1.0 02:R3              4.93     .193 No_date    1:44   24.54  n/a      .000
00854>                             + 1.0 02:EXT5            .59     .026 No_date    1:33   21.44  n/a      .000
00855>                        SUM=   1.0 01:J4              5.52     .218 No_date    1:42   24.20  n/a      .000
00856> R0025:C00025-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00857>      ROUTE CHANNEL    ->     1.0 02:J4              5.52     .218 No_date    1:42   24.20  n/a      .000
00858>        [RDT= 1.00] out<-     1.0 01:R4              5.52     .205 No_date    1:53   24.20  n/a      .000
00859>         [L/S/n=  251./ .190/.035]
00860>         [Vmax=  .384:Dmax=  .285]
00861> R0025:C00026-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00862>      ADD HYD                  1.0 02:R4              5.52     .205 No_date    1:53   24.20  n/a      .000
00863>                             + 1.0 02:EXT6            .86     .046 No_date    1:40   29.15  n/a      .000
00864>                             + 1.0 02:EXT7            .47     .034 No_date    1:22   27.17  n/a      .000
00865>                        SUM=   1.0 01:J5              6.86     .267 No_date    1:49   25.03  n/a      .000
00866> R0025:C00027-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00867>      ROUTE CHANNEL    ->     1.0 02:J5              6.86     .267 No_date    1:49   25.03  n/a      .000
00868>        [RDT= 1.00] out<-     1.0 01:R5              6.86     .263 No_date    1:54   25.03  n/a      .000
00869>         [L/S/n=  237./ .644/.035]
00870>         [Vmax=  .623:Dmax=  .267]
00871> R0025:C00028-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00872>      ROUTE CHANNEL    ->     1.0 02:Pre10           .80     .040 No_date    1:20   18.23  n/a      .000
00873>        [RDT= 1.00] out<-     1.0 01:R6              .80     .039 No_date    1:23   18.23  n/a      .000
00874>         [L/S/n=  77./ .776/.035]
00875>         [Vmax=  .492:Dmax=  .029]
00876> R0025:C00029-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00877>      ROUTE CHANNEL    ->     1.0 02:Pre9            .83     .024 No_date    1:48   18.23  n/a      .000
00878>        [RDT= 1.00] out<-     1.0 01:R7              .83     .024 No_date    1:52   18.23  n/a      .000
00879>         [L/S/n=  159./1.576/.035]
00880>         [Vmax=  .797:Dmax=  .007]
00881> R0025:C00030-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00882>      ADD HYD                  1.0 02:R6              .80     .039 No_date    1:23   18.43  n/a      .000
00883>                             + 1.0 02:EXT10           .20     .008 No_date    1:31   18.23  n/a      .000
00884>                        SUM=   1.0 01:J6              1.01     .047 No_date    1:24   18.39  n/a      .000
00885> R0025:C00031-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00886>      ROUTE CHANNEL    ->     1.0 02:J6              1.01     .047 No_date    1:24   18.39  n/a      .000
00887>        [RDT= 1.00] out<-     1.0 01:R8              1.01     .046 No_date    1:27   18.39  n/a      .000
00888>         [L/S/n=  79./ .522/.035]
00889>         [Vmax=  .423:Dmax=  .034]
00890> R0025:C00032-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00891>      ADD HYD                  1.0 02:R8              1.01     .046 No_date    1:27   18.39  n/a      .000
00892>                             + 1.0 02:R7              .83     .024 No_date    1:52   18.26  n/a      .000
00893>                        SUM=   1.0 01:J7              1.83     .065 No_date    1:32   18.33  n/a      .000
00894> R0025:C00033-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00895>      ROUTE CHANNEL    ->     1.0 02:J7              1.83     .065 No_date    1:32   18.33  n/a      .000
00896>        [RDT= 1.00] out<-     1.0 01:R9              1.83     .065 No_date    1:33   18.33  n/a      .000
00897>         [L/S/n=  29./ .887/.035]
00898>         [Vmax=  .543:Dmax=  .044]
00899> R0025:C00034-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00900>      ADD HYD                  1.0 02:EXT9            3.57     .151 No_date    1:35   21.44  n/a      .000
00901>                             + 1.0 02:R9              1.83     .065 No_date    1:33   18.34  n/a      .000
00902>                             + 1.0 02:EXT8             .83     .043 No_date    1:30   23.69  n/a      .000
00903>                             + 1.0 02:R5              6.86     .263 No_date    1:54   25.03  n/a      .000
00904>                        SUM=   1.0 01:J8              13.10     .493 No_date    1:45   23.03  n/a      .000
00905> R0025:C00035-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00906>      ROUTE PIPE       ->     1.0 02:J8              13.10     .493 No_date    1:45   23.03  n/a      .000
00907> *    [RDT= 1.00] out<-     1.0 01:Outlet          13.10     .493 No_date    1:45   23.03  n/a      .000
00908>         [L/S/n=   8./ .010/.013]
00909>         [Vmax=  .417:Dmax= 1.075]
00910>         [Din=  .53:Dused= 1.31]
00911> ###########################################################################
00912> # STORMS
00913> ###########################################################################
00914>  ** END OF RUN :  49
00915>
00916> *************************************************************************************
00917>
00918>
00919>
00920>
00921>
00922>  RUN#:COMMAND#
00923> R0050:C00001-------------------------------------------------------------------------------
00924>    START
00925>       [TZERO =    .00 hrs on      0]
00926>       [METOUT=   2    (1=imperial, 2=metric output)]
00927>       [NSTORM=   1 ]
00928>       [NRUN  = 0050 ]
00929> #*************************************************************************************
00930> #  SWMHYMO  / INPUT DATA FILE
00931> #*************************************************************************************
00932> #  Project Name  : [5923 Octawa St]
00933> #  Project Number: [P2710(e01)]
00934> #  Date          : [2025 FEB 05]
00935> #  Modeller      : [MM]
00936> #  Company       : JFSA Canada Inc.
00937> #  License #     : 2549237
00938> #*************************************************************************************
00939> # Model developed to simulate runoff from subcatchments under pre development conditions
00940> #*************************************************************************************
00941> R0050:C00002-------------------------------------------------------------------------------
00942>       READ STORM
00943>        Filename = STORM.001
00944>        Comment  = CHICAGO STORM  50 Year, 3 Hours
00945>        [SDT=10.00:SDUR=   3.00:PTOT=  64.81]
00946> #*************************************************************************************
00947> # EXT1
00948> #*************************************************************************************
00949> R0050:C00003-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00950>      CALIB NASHYD             1.0 01:EXT1            3.21     .142 No_date    1:53   29.25  .451     .000
00951>        [CN= 80.0: N= 3.00: Tp=  .72]
00952> #*************************************************************************************
00953> # EXT2
00954> #*************************************************************************************
00955> R0050:C00004-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00956>      CALIB NASHYD             1.0 01:EXT2            .28     .026 No_date    1:22   34.45  .532     .000
00957>        [CN= 85.0: N= 3.00: Tp=  .33]
00958> #*************************************************************************************
00959> # EXT3
00960> #*************************************************************************************
00961> R0050:C00005-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00962>      CALIB NASHYD             1.0 01:EXT3            .56     .044 No_date    1:22   29.25  .451     .000
00963>        [CN= 80.0: N= 3.00: Tp=  .32]
00964> #*************************************************************************************
00965> # EXT4
00966> #*************************************************************************************
00967> R0050:C00006-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00968>      CALIB NASHYD             1.0 01:EXT4            .31     .025 No_date    1:19   28.33  .437     .000
00969>        [CN= 79.0: N= 3.00: Tp=  .29]
00970> #*************************************************************************************
00971> # EXT5
00972> #*************************************************************************************
00973> R0050:C00007-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00974>      CALIB NASHYD             1.0 01:EXT5            .59     .032 No_date    1:32   25.77  .398     .000
00975>        [CN= 76.0: N= 3.00: Tp=  .45]
00976> #*************************************************************************************
00977> # EXT6
00978> #*************************************************************************************
00979> R0050:C00008-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00980>      CALIB NASHYD             1.0 01:EXT6            .86     .055 No_date    1:40   34.45  .532     .000
00981>        [CN= 85.0: N= 3.00: Tp=  .56]
00982> #*************************************************************************************
00983> # EXT7
00984> #*************************************************************************************
00985> R0050:C00009-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00986>      CALIB NASHYD             1.0 01:EXT7            .47     .041 No_date    1:21   32.24  .498     .000
00987>        [CN= 83.0: N= 3.00: Tp=  .32]
00988> #*************************************************************************************
00989> # EXT8
00990> #*************************************************************************************
00991> R0050:C00010-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00992>      CALIB NASHYD             1.0 01:EXT8            .83     .052 No_date    1:30   28.33  .437     .000
00993>        [CN= 79.0: N= 3.00: Tp=  .42]
00994> #*************************************************************************************
00995> # EXT9
00996> #*************************************************************************************
00997> R0050:C00011-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00998>      CALIB NASHYD             1.0 01:EXT9            3.57     .183 No_date    1:35   25.77  .398     .000
00999>        [CN= 76.0: N= 3.00: Tp=  .48]
01000> #*************************************************************************************
01001> # EXT9a
01002> #*************************************************************************************
01003> R0050:C00012-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01004>      CALIB NASHYD             1.0 01:EXT9a           .01     .002 No_date    1:00   27.43  .423     .000
01005>        [CN= 78.0: N= 3.00: Tp=  .04]
01006> #*************************************************************************************
01007> # EXT10
01008> #*************************************************************************************
01009> R0050:C00013-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01010>      CALIB NASHYD             1.0 01:EXT10           .20     .010 No_date    1:30   22.06  .340     .000
01011>        [CN= 71.0: N= 3.00: Tp=  .42]
01012> #*************************************************************************************
01013> # Pre2
01014> #*************************************************************************************
01015> R0050:C00014-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01016>      CALIB NASHYD             1.0 01:Pre2            .57     .032 No_date    1:33   27.44  .423     .000
01017>        [CN= 78.0: N= 3.00: Tp=  .46]
01018> #*************************************************************************************
01019> # Pre9
01020> #*************************************************************************************
01021> R0050:C00015-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01022>      CALIB NASHYD             1.0 01:Pre9            .83     .029 No_date    1:48   22.07  .340     .000
01023>        [CN= 71.0: N= 3.00: Tp=  .64]
01024> #*************************************************************************************
01025> # Pre10
01026> #*************************************************************************************
01027> R0050:C00016-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01028>      CALIB NASHYD             1.0 01:Pre10           .80     .049 No_date    1:20   22.07  .340     .000
01029>        [CN= 71.0: N= 3.00: Tp=  .29]
01030> #*************************************************************************************
01031> # Pre11
01032> #*************************************************************************************
01033> R0050:C00017-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01034>      CALIB NASHYD             1.0 01:Pre11           .07     .007 No_date    1:13   27.44  .423     .000
01035>        [CN= 78.0: N= 3.00: Tp=  .21]
01036> #*************************************************************************************
01037> R0050:C00018-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01038>      ADD HYD                  1.0 02:EXT2            .28     .026 No_date    1:22   34.45  n/a      .000
01039>                             + 1.0 02:Pre2            .57     .032 No_date    1:33   27.44  n/a      .000
01040>                        SUM=   1.0 01:J1              .85     .057 No_date    1:27   29.79  n/a      .000
01041> R0050:C00019-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01042>      ROUTE CHANNEL    ->     1.0 02:J1              .85     .057 No_date    1:27   29.79  n/a      .000
01043>        [RDT= 1.00] out<-     1.0 01:R1              .85     .054 No_date    1:33   29.79  n/a      .000
01044>         [L/S/n=  143./ .394/.035]
01045>         [Vmax=  .360:Dmax=  .151]
01046> R0050:C00020-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01047>      ADD HYD                  1.0 02:R1              .85     .054 No_date    1:33   29.79  n/a      .000
01048>                             + 1.0 02:EXT3            .56     .044 No_date    1:22   29.25  n/a      .000
01049>                             + 1.0 02:EXT1           3.21     .142 No_date    1:53   29.25  n/a      .000
01050>                        SUM=   1.0 01:J2              4.62     .219 No_date    1:40   29.35  n/a      .000
01051> R0050:C00021-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01052>      ROUTE CHANNEL    ->     1.0 02:J2              4.62     .219 No_date    1:40   29.35  n/a      .000
01053>        [RDT= 1.00] out<-     1.0 01:R2              4.62     .218 No_date    1:42   29.35  n/a      .000
01054>         [L/S/n=  73./ .425/.035]
01055>         [Vmax=  .505:Dmax=  .266]
01056> R0050:C00022-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01057>      ADD HYD                  1.0 02:R2              4.62     .218 No_date    1:42   29.35  n/a      .000
01058>                             + 1.0 02:EXT4            .31     .025 No_date    1:19   28.33  n/a      .000
01059>                        SUM=   1.0 01:J3              4.93     .234 No_date    1:40   29.29  n/a      .000
01060> R0050:C00023-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01061>      ROUTE CHANNEL    ->     1.0 02:J3              4.93     .234 No_date    1:40   29.29  n/a      .000
01062>        [RDT= 1.00] out<-     1.0 01:R3              4.93     .232 No_date    1:42   29.29  n/a      .000
01063>         [L/S/n=  92./ .274/.035]
01064>         [Vmax=  .412:Dmax=  .274]
01065> R0050:C00024-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01066>      ADD HYD                  1.0 02:R3              4.93     .232 No_date    1:42   29.29  n/a      .000
01067>                             + 1.0 02:EXT5            .59     .032 No_date    1:32   25.77  n/a      .000
01068>                        SUM=   1.0 01:J4              5.52     .263 No_date    1:41   28.91  n/a      .000
01069> R0050:C00025-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01070>      ROUTE CHANNEL    ->     1.0 02:J4              5.52     .263 No_date    1:41   28.91  n/a      .000
01071>        [RDT= 1.00] out<-     1.0 01:R4              5.52     .248 No_date    1:52   28.91  n/a      .000
01072>         [L/S/n=  251./ .190/.035]
01073>         [Vmax=  .406:Dmax=  .309]
01074> R0050:C00026-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01075>      ADD HYD                  1.0 02:R4              5.52     .248 No_date    1:52   28.91  n/a      .000
01076>                             + 1.0 02:EXT6            .86     .055 No_date    1:40   34.45  n/a      .000
01077>                             + 1.0 02:EXT7            .47     .041 No_date    1:21   32.24  n/a      .000
01078>                        SUM=   1.0 01:J5              6.86     .323 No_date    1:47   29.83  n/a      .000
01079> R0050:C00027-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01080>      ROUTE CHANNEL    ->     1.0 02:J5              6.86     .323 No_date    1:47   29.83  n/a      .000
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01081>       [RDT= 1.00] out<-    1.0 01:R5            6.86     .318 No_date    1:52   29.83  n/a     .000
01082>         [L/S/n=  237./ .644/.035]
01083>         (Vmax=  .658:Dmax=  .288]
01084> R0050:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01085>       ROUTE CHANNEL   ->    1.0 02:Pre10          .80     .049 No_date    1:20   22.07  n/a     .000
01086>       [RDT= 1.00] out<-    1.0 01:R6            .80     .048 No_date    1:23   22.07  n/a     .000
01087>         [L/S/n=   77./ .776/.035]
01088>         (Vmax=  .492:Dmax=  .036]
01089> R0050:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01090>       ROUTE CHANNEL   ->    1.0 02:Pre9           .83     .029 No_date    1:48   22.07  n/a     .000
01091>       [RDT= 1.00] out<-    1.0 01:R7            .83     .029 No_date    1:51   22.07  n/a     .000
01092>         [L/S/n=  159./1.576/.035]
01093>         (Vmax=  .797:Dmax=  .009]
01094> R0050:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01095>       ADD HYD              1.0 02:R6            .80     .048 No_date    1:23   22.28  n/a     .000
01096>                          +    1.0 02:EXT10         .20     .010 No_date    1:30   22.06  n/a     .000
01097>                    SUM=       1.0 01:J6            1.01     .057 No_date    1:24   22.24  n/a     .000
01098> R0050:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01099>       ROUTE CHANNEL   ->    1.0 02:J6            1.01     .057 No_date    1:24   22.24  n/a     .000
01100>       [RDT= 1.00] out<-    1.0 01:R8            1.01     .056 No_date    1:27   22.24  n/a     .000
01101>         [L/S/n=   79./ .522/.035]
01102>         (Vmax=  .423:Dmax=  .042]
01103> R0050:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01104>       ADD HYD              1.0 02:R8            1.01     .056 No_date    1:27   22.24  n/a     .000
01105>                          +    1.0 02:R7            .83     .029 No_date    1:51   22.09  n/a     .000
01106>                    SUM=       1.0 01:J7            1.83     .079 No_date    1:32   22.17  n/a     .000
01107> R0050:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01108>       ROUTE CHANNEL   ->    1.0 02:J7            1.83     .079 No_date    1:32   22.17  n/a     .000
01109>       [RDT= 1.00] out<-    1.0 01:R9            1.83     .079 No_date    1:33   22.17  n/a     .000
01110>         [L/S/n=   29./ .887/.035]
01111>         (Vmax=  .543:Dmax=  .054]
01112> R0050:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01113>       ADD HYD              1.0 02:EXT9          3.57     .183 No_date    1:35   25.77  n/a     .000
01114>                          +    1.0 02:R9            1.83     .079 No_date    1:33   22.18  n/a     .000
01115>                          +    1.0 02:EXT8          .83     .052 No_date    1:30   28.33  n/a     .000
01116>                          +    1.0 02:R5            6.86     .318 No_date    1:52   29.83  n/a     .000
01117>                    SUM=       1.0 01:J8           13.10     .602 No_date    1:44   27.56  n/a     .000
01118> R0050:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01119>       ROUTE PIPE      ->    1.0 02:J8           13.10     .602 No_date    1:44   27.56  n/a     .000
01120> *     [RDT= 1.00] out<-    1.0 01:Outlet        13.10     .602 No_date    1:44   27.56  n/a     .000
01121>         [L/S/n=   8./ .010/.013]
01122>         (Vmax=  .438:Dmax= 1.159]
01123>         [Din=  .53:Dused= 1.41]
01124> ################################################################################
01125> # STORMS
01126> ################################################################################
01127>   ** END OF RUN :   98
01128>
01129> ********************************************************************************
01130>
01131>
01132>
01133>
01134>
01135>  RUN#:COMMAND#
01136> R0099:C00001------------------------------------------------------------------------------
01137>       START
01138>         [TZERO =    .00 hrs on        0]
01139>         [METOUT=   2    (1=imperial, 2=metric output)]
01140>         [NSTORM=   1 ]
01141>         [NRUN  = 0099 ]
01142> #*******************************************************************************
01143> #  SWMHYMO  / INPUT DATA FILE
01144> #*******************************************************************************
01145> #  Project Name  : [5923 Ottawa St]
01146> #  Project Number: [P2710(e01)]
01147> #  Date          : [2025 FEB 05]
01148> #  Modeller      : [MM]
01149> #  Company       : JFSA Canada Inc.
01150> #  License #     : 2549237
01151> #*******************************************************************************
01152> # Model developed to simulate runoff from subcatchments under pre development conditions
01153> #*******************************************************************************
01154> R0099:C00002------------------------------------------------------------------------------
01155>       READ STORM
01156>         Filename = STORM.001
01157>         Comment  = CHICAGO STORM   100 Year, 3 Hours
01158>         [SDT=10.00:SDUR=   3.00:PTOT=  71.66]
01159> #*******************************************************************************
01160> # EXT1
01161> #*******************************************************************************
01162> R0099:C00003------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01163>       CALIB NASHYD         1.0 01:EXT1          3.21     .167 No_date    1:52   34.39 .480     .000
01164>         [CN= 80.0: N= 3.00: Tp=  .72]
01165> #*******************************************************************************
01166> # EXT2
01167> #*******************************************************************************
01168> R0099:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01169>       CALIB NASHYD         1.0 01:EXT2          .28     .031 No_date    1:22   40.14 .560     .000
01170>         [CN= 85.0: N= 3.00: Tp=  .33]
01171> #*******************************************************************************
01172> # EXT3
01173> #*******************************************************************************
01174> R0099:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01175>       CALIB NASHYD         1.0 01:EXT3          .56     .052 No_date    1:21   34.39 .480     .000
01176>         [CN= 80.0: N= 3.00: Tp=  .32]
01177> #*******************************************************************************
01178> # EXT4
01179> #*******************************************************************************
01180> R0099:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01181>       CALIB NASHYD         1.0 01:EXT4          .31     .029 No_date    1:19   33.37 .466     .000
01182>         [CN= 79.0: N= 3.00: Tp=  .29]
01183> #*******************************************************************************
01184> # EXT5
01185> #*******************************************************************************
01186> R0099:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01187>       CALIB NASHYD         1.0 01:EXT5          .59     .038 No_date    1:32   30.49 .425     .000
01188>         [CN= 76.0: N= 3.00: Tp=  .45]
01189> #*******************************************************************************
01190> # EXT6
01191> #*******************************************************************************
01192> R0099:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01193>       CALIB NASHYD         1.0 01:EXT6          .86     .064 No_date    1:39   40.14 .560     .000
01194>         [CN= 85.0: N= 3.00: Tp=  .56]
01195> #*******************************************************************************
01196> # EXT7
01197> #*******************************************************************************
01198> R0099:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01199>       CALIB NASHYD         1.0 01:EXT7          .47     .048 No_date    1:21   37.71 .526     .000
01200>         [CN= 83.0: N= 3.00: Tp=  .32]
01201> #*******************************************************************************
01202> # EXT8
01203> #*******************************************************************************
01204> R0099:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01205>       CALIB NASHYD         1.0 01:EXT8          .83     .062 No_date    1:29   33.37 .466     .000
01206>         [CN= 79.0: N= 3.00: Tp=  .42]
01207> #*******************************************************************************
01208> # EXT9
01209> #*******************************************************************************
01210> R0099:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01211>       CALIB NASHYD         1.0 01:EXT9          3.57     .218 No_date    1:34   30.49 .425     .000
01212>         [CN= 76.0: N= 3.00: Tp=  .48]
01213> #*******************************************************************************
01214> # EXT9a
01215> #*******************************************************************************
01216> R0099:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01217>       CALIB NASHYD         1.0 01:EXT9a         .01     .003 No_date    1:00   32.37 .452     .000
01218>         [CN= 78.0: N= 3.00: Tp=  .04]
01219> #*******************************************************************************
01220> # EXT10
01221> #*******************************************************************************
01222> R0099:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01223>       CALIB NASHYD         1.0 01:EXT10         .20     .012 No_date    1:30   26.28 .367     .000
01224>         [CN= 71.0: N= 3.00: Tp=  .42]
01225> #*******************************************************************************
01226> # Pre2
01227> #*******************************************************************************
01228> R0099:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01229>       CALIB NASHYD         1.0 01:Pre2          .57     .038 No_date    1:32   32.37 .452     .000
01230>         [CN= 78.0: N= 3.00: Tp=  .46]
01231> #*******************************************************************************
01232> # Pre9
01233> #*******************************************************************************
01234> R0099:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01235>       CALIB NASHYD         1.0 01:Pre9          .83     .035 No_date    1:47   26.29 .367     .000
01236>         [CN= 71.0: N= 3.00: Tp=  .64]
01237> #*******************************************************************************
01238> # Pre10
01239> #*******************************************************************************
01240> R0099:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01241>       CALIB NASHYD         1.0 01:Pre10         .80     .058 No_date    1:20   26.29 .367     .000
01242>         [CN= 71.0: N= 3.00: Tp=  .29]
01243> #*******************************************************************************
01244> # Pre11
01245> #*******************************************************************************
01246> R0099:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01247>       CALIB NASHYD         1.0 01:Pre11         .07     .008 No_date    1:13   32.37 .452     .000
01248>         [CN= 78.0: N= 3.00: Tp=  .21]
01249> #*******************************************************************************
01250> R0099:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01251>       ADD HYD              1.0 02:EXT2          .28     .031 No_date    1:22   40.14  n/a     .000
01252>                          +    1.0 02:Pre2          .57     .038 No_date    1:32   32.37  n/a     .000
01253>                    SUM=       1.0 01:J1            .85     .067 No_date    1:27   34.97  n/a     .000
01254> R0099:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01255>       ROUTE CHANNEL   ->    1.0 02:J1            .85     .067 No_date    1:27   34.97  n/a     .000
01256>       [RDT= 1.00] out<-    1.0 01:R1            .85     .064 No_date    1:33   34.97  n/a     .000
01257>         [L/S/n=  143./ .394/.035]
01258>         (Vmax=  .375:Dmax=  .162]
01259> R0099:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01260>       ADD HYD              1.0 02:R1            .85     .064 No_date    1:33   34.97  n/a     .000
01261>                          +    1.0 02:EXT3          .56     .052 No_date    1:21   34.39  n/a     .000
01262>                          +    1.0 02:EXT1         3.21     .167 No_date    1:52   34.39  n/a     .000
01263>                    SUM=       1.0 01:J2           4.62     .258 No_date    1:40   34.50  n/a     .000
01264> R0099:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01265>       ROUTE CHANNEL   ->    1.0 02:J2           4.62     .258 No_date    1:40   34.50  n/a     .000
01266>       [RDT= 1.00] out<-    1.0 01:R2            4.62     .258 No_date    1:42   34.50  n/a     .000
01267>         [L/S/n=   73./ .425/.035]
01268>         (Vmax=  .526:Dmax=  .284]
01269> R0099:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01270>       ADD HYD              1.0 02:R2           4.62     .258 No_date    1:42   34.50  n/a     .000
01271>                          +    1.0 02:EXT4          .31     .029 No_date    1:19   33.37  n/a     .000
01272>                    SUM=       1.0 01:J3           4.93     .277 No_date    1:39   34.43  n/a     .000
01273> R0099:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01274>       ROUTE CHANNEL   ->    1.0 02:J3           4.93     .277 No_date    1:39   34.43  n/a     .000
01275>       [RDT= 1.00] out<-    1.0 01:R3            4.93     .275 No_date    1:42   34.43  n/a     .000
01276>         [L/S/n=   92./ .274/.035]
01277>         (Vmax=  .431:Dmax=  .239]
01278> R0099:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01279>       ADD HYD              1.0 02:R3           4.93     .275 No_date    1:42   34.43  n/a     .000
01280>                          +    1.0 02:EXT5          .59     .038 No_date    1:32   30.49  n/a     .000
01281>                    SUM=       1.0 01:J4           5.52     .311 No_date    1:40   34.01  n/a     .000
01282> R0099:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01283>       ROUTE CHANNEL   ->    1.0 02:J4           5.52     .311 No_date    1:40   34.01  n/a     .000
01284>       [RDT= 1.00] out<-    1.0 01:R4            5.52     .295 No_date    1:51   34.01  n/a     .000
01285>         [L/S/n=  251./ .190/.035]
01286>         (Vmax=  .425:Dmax=  .333]
01287> R0099:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01288>       ADD HYD              1.0 02:R4           5.52     .295 No_date    1:51   34.01  n/a     .000
01289>                          +    1.0 02:EXT6          .86     .064 No_date    1:39   40.14  n/a     .000
01290>                          +    1.0 02:EXT7          .47     .048 No_date    1:21   37.71  n/a     .000
01291>                    SUM=       1.0 01:J5           6.86     .384 No_date    1:46   35.03  n/a     .000
01292> R0099:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01293>       ROUTE CHANNEL   ->    1.0 02:J5           6.86     .384 No_date    1:46   35.03  n/a     .000
01294>       [RDT= 1.00] out<-    1.0 01:R5            6.86     .380 No_date    1:51   35.03  n/a     .000
01295>         [L/S/n=  237./ .644/.035]
01296>         (Vmax=  .699:Dmax=  .310]
01297> R0099:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01298>       ROUTE CHANNEL   ->    1.0 02:Pre10         .80     .058 No_date    1:20   26.29  n/a     .000
01299>       [RDT= 1.00] out<-    1.0 01:R6            .80     .058 No_date    1:23   26.29  n/a     .000
01300>         [L/S/n=   77./ .776/.035]
01301>         (Vmax=  .492:Dmax=  .043]
01302> R0099:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01303>       ROUTE CHANNEL   ->    1.0 02:Pre9          .83     .035 No_date    1:47   26.29  n/a     .000
01304>       [RDT= 1.00] out<-    1.0 01:R7            .83     .035 No_date    1:51   26.29  n/a     .000
01305>         [L/S/n=  159./1.576/.035]
01306>         (Vmax=  .797:Dmax=  .011]
01307> R0099:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01308>       ADD HYD              1.0 02:R6            .80     .058 No_date    1:23   26.52  n/a     .000
01309>                          +    1.0 02:EXT10         .20     .012 No_date    1:30   26.28  n/a     .000
01310>                    SUM=       1.0 01:J6           1.01     .069 No_date    1:23   26.47  n/a     .000
01311> R0099:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01312>       ROUTE CHANNEL   ->    1.0 02:J6           1.01     .069 No_date    1:23   26.47  n/a     .000
01313>       [RDT= 1.00] out<-    1.0 01:R8            1.01     .068 No_date    1:27   26.47  n/a     .000
01314>         [L/S/n=   79./ .522/.035]
01315>         (Vmax=  .423:Dmax=  .050]
01316> R0099:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01317>       ADD HYD              1.0 02:R8           1.01     .068 No_date    1:27   26.48  n/a     .000
01318>                          +    1.0 02:R7            .83     .035 No_date    1:51   26.32  n/a     .000
01319>                    SUM=       1.0 01:J7           1.83     .095 No_date    1:32   26.40  n/a     .000
01320> R0099:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01321>       ROUTE CHANNEL   ->    1.0 02:J7           1.83     .095 No_date    1:32   26.40  n/a     .000
01322>       [RDT= 1.00] out<-    1.0 01:R9            1.83     .095 No_date    1:32   26.40  n/a     .000
01323>         [L/S/n=   29./ .887/.035]
01324>         (Vmax=  .543:Dmax=  .064]
01325> R0099:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01326>       ADD HYD              1.0 02:EXT9          3.57     .218 No_date    1:34   30.49  n/a     .000
01327>                          +    1.0 02:R9           1.83     .095 No_date    1:32   26.42  n/a     .000
01328>                          +    1.0 02:EXT8          .83     .062 No_date    1:29   33.37  n/a     .000
01329>                          +    1.0 02:R5           6.86     .380 No_date    1:51   35.03  n/a     .000
01330>                    SUM=       1.0 01:J8           13.10     .721 No_date    1:42   32.48  n/a     .000
01331> R0099:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01332>       ROUTE PIPE      ->    1.0 02:J8           13.10     .721 No_date    1:42   32.48  n/a     .000
01333> *     [RDT= 1.00] out<-    1.0 01:Outlet        13.10     .721 No_date    1:43   32.48  n/a     .000
01334>         [L/S/n=    8./ .010/.013]
01335>         (Vmax=  .458:Dmax= 1.240]
01336>         [Din=  .53:Dused= 1.51]
01337> ################################################################################
01338> # STORMS
01339> ################################################################################
01340>   ** END OF RUN :  101
01341>
01342> ********************************************************************************
01343>
01344>
01345>
01346>
01347>
01348>  RUN#:COMMAND#
01349> R0102:C00001------------------------------------------------------------------------------
01350>       START
01351>         [TZERO =    .00 hrs on        0]
01352>         [METOUT=   2    (1=imperial, 2=metric output)]
01353>         [NSTORM=   1 ]
01354>         [NRUN  = 0102 ]
01355> #*******************************************************************************
01356> #  SWMHYMO  / INPUT DATA FILE
01357> #*******************************************************************************
01358> #  Project Name  : [5923 Ottawa St]
01359> #  Project Number: [P2710(e01)]
01360> #  Date          : [2025 FEB 05]
01361> #  Modeller      : [MM]
01362> #  Company       : JFSA Canada Inc.
01363> #  License #     : 2549237
01364> #*******************************************************************************
01365> # Model developed to simulate runoff from subcatchments under pre development conditions
01366> #*******************************************************************************
01367> R0102:C00002------------------------------------------------------------------------------
01368>       READ STORM
01369>         Filename = STORM.001
01370>         Comment  = 2 years SCS Type 2 Storm 24 Hours step 10 min, City of Ottawa
01371>         [SDT=10.00:SDUR=  24.00:PTOT=  48.46]
01372> #*******************************************************************************
01373> # EXT1
01374> #*******************************************************************************
01375> R0102:C00003------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01376>       CALIB NASHYD         1.0 01:EXT1          3.21     .058 No_date   12:42   17.87 .369     .000
01377>         [CN= 80.0: N= 3.00: Tp=  .72]
01378> #*******************************************************************************
01379> # EXT2
01380> #*******************************************************************************
01381> R0102:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01382>       CALIB NASHYD         1.0 01:EXT2          .28     .011 No_date   12:14   21.63 .446     .000
01383>         [CN= 85.0: N= 3.00: Tp=  .33]
01384> #*******************************************************************************
01385> # EXT3
01386> #*******************************************************************************
01387> R0102:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01388>       CALIB NASHYD         1.0 01:EXT3          .56     .018 No_date   12:13   17.87 .369     .000
01389>         [CN= 80.0: N= 3.00: Tp=  .32]
01390> #*******************************************************************************
01391> # EXT4
01392> #*******************************************************************************
01393> R0102:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01394>       CALIB NASHYD         1.0 01:EXT4          .31     .010 No_date   12:12   17.22 .355     .000
01395>         [CN= 79.0: N= 3.00: Tp=  .29]
01396> #*******************************************************************************
01397> # EXT5
01398> #*******************************************************************************
01399> R0102:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01400>       CALIB NASHYD         1.0 01:EXT5          .59     .013 No_date   12:22   15.46 .319     .000
01401>         [CN= 76.0: N= 3.00: Tp=  .45]
01402> #*******************************************************************************
01403> # EXT6
01404> #*******************************************************************************
01405> R0102:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01406>       CALIB NASHYD         1.0 01:EXT6          .86     .023 No_date   12:30   21.64 .446     .000
01407>         [CN= 85.0: N= 3.00: Tp=  .56]
01408> #*******************************************************************************
01409> # EXT7
01410> #*******************************************************************************
01411> R0102:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01412>       CALIB NASHYD         1.0 01:EXT7          .47     .017 No_date   12:13   20.01 .413     .000
01413>         [CN= 83.0: N= 3.00: Tp=  .32]
01414> #*******************************************************************************
01415> # EXT8
01416> #*******************************************************************************
01417> R0102:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01418>       CALIB NASHYD         1.0 01:EXT8          .83     .021 No_date   12:20   17.22 .355     .000
01419>         [CN= 79.0: N= 3.00: Tp=  .42]
01420> #*******************************************************************************
01421> # EXT9
01422> #*******************************************************************************
01423> R0102:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01424>       CALIB NASHYD         1.0 01:EXT9          3.57     .074 No_date   12:25   15.46 .319     .000
01425>         [CN= 76.0: N= 3.00: Tp=  .48]
01426> #*******************************************************************************
01427> # EXT9a
01428> #*******************************************************************************
01429> R0102:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01430>       CALIB NASHYD         1.0 01:EXT9a         .01     .001 No_date   12:00   16.59 .342     .000
01431>         [CN= 78.0: N= 3.00: Tp=  .04]
01432> #*******************************************************************************
01433> # EXT10
01434> #*******************************************************************************
01435> R0102:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01436>       CALIB NASHYD         1.0 01:EXT10         .20     .004 No_date   12:20   12.99 .268     .000
01437>         [CN= 71.0: N= 3.00: Tp=  .42]
01438> #*******************************************************************************
01439> # Pre2
01440> #*******************************************************************************
```

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01441> R0102:C00014-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01442>      CALIB NASHYD           1.0 01:Pre2           .57     .013 No_date   12:23   16.61 .343     .000
01443>        [CN= 78.0: N= 3.00: Tp=  .46]
01444> ********************************************************************************
01445> # Pre9
01446> ********************************************************************************
01447> R0102:C00015-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01448>      CALIB NASHYD           1.0 01:Pre9           .83     .012 No_date   12:37   12.99 .268     .000
01449>        [CN= 71.0: N= 3.00: Tp=  .64]
01450> ********************************************************************************
01451> # Pre10
01452> ********************************************************************************
01453> R0102:C00016-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01454>      CALIB NASHYD           1.0 01:Pre10          .80     .020 No_date   12:12   12.99 .268     .000
01455>        [CN= 71.0: N= 3.00: Tp=  .29]
01456> ********************************************************************************
01457> # Pre11
01458> ********************************************************************************
01459> R0102:C00017-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01460>      CALIB NASHYD           1.0 01:Pre11          .07     .003 No_date   12:07   16.60 .343     .000
01461>        [CN= 78.0: N= 3.00: Tp=  .21]
01462> ********************************************************************************
01463> R0102:C00018-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01464>      ADD HYD                1.0 02:EXT2           .28     .011 No_date   12:14   21.63  n/a     .000
01465>                       +     1.0 02:Pre2           .57     .013 No_date   12:23   16.61  n/a     .000
01466>                     SUM=    1.0 01:J1             .85     .024 No_date   12:18   18.29  n/a     .000
01467> R0102:C00019-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01468>      ROUTE CHANNEL   ->     1.0 02:J1             .85     .024 No_date   12:18   18.29  n/a     .000
01469>        [RDT= 1.00] out<-    1.0 01:R1             .85     .022 No_date   12:25   18.29  n/a     .000
01470>        [L/S/n=  143./ .394/.035]
01471>        {Vmax=  .278:Dmax=  .103}
01472> R0102:C00020-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01473>      ADD HYD                1.0 02:R1             .85     .022 No_date   12:25   18.29  n/a     .000
01474>                       +     1.0 02:EXT3           .56     .018 No_date   12:13   17.87  n/a     .000
01475>                       +     1.0 02:EXT1          3.21     .058 No_date   12:42   17.87  n/a     .000
01476>                     SUM=    1.0 01:J2            4.62     .090 No_date   12:30   17.95  n/a     .000
01477> R0102:C00021-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01478>      ROUTE CHANNEL   ->     1.0 02:J2            4.62     .090 No_date   12:30   17.95  n/a     .000
01479>        [RDT= 1.00] out<-    1.0 01:R2            4.62     .090 No_date   12:33   17.95  n/a     .000
01480>        [L/S/n=   73./ .425/.035]
01481>        {Vmax=  .398:Dmax=  .186}
01482> R0102:C00022-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01483>      ADD HYD                1.0 02:R2            4.62     .090 No_date   12:33   17.95  n/a     .000
01484>                       +     1.0 02:EXT4           .31     .010 No_date   12:12   17.22  n/a     .000
01485>                     SUM=    1.0 01:J3            4.93     .096 No_date   12:30   17.90  n/a     .000
01486> R0102:C00023-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01487>      ROUTE CHANNEL   ->     1.0 02:J3            4.93     .096 No_date   12:30   17.90  n/a     .000
01488>        [RDT= 1.00] out<-    1.0 01:R3            4.93     .095 No_date   12:35   17.90  n/a     .000
01489>        [L/S/n=   92./ .274/.035]
01490>        {Vmax=  .326:Dmax=  .193}
01491> R0102:C00024-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01492>      ADD HYD                1.0 02:R3            4.93     .095 No_date   12:35   17.90  n/a     .000
01493>                       +     1.0 02:EXT5           .59     .013 No_date   12:22   15.46  n/a     .000
01494>                     SUM=    1.0 01:J4            5.52     .107 No_date   12:33   17.64  n/a     .000
01495> R0102:C00025-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01496>      ROUTE CHANNEL   ->     1.0 02:J4            5.52     .107 No_date   12:33   17.64  n/a     .000
01497>        [RDT= 1.00] out<-    1.0 01:R4            5.52     .098 No_date   12:46   17.64  n/a     .000
01498>        [L/S/n=   251./ .190/.035]
01499>        {Vmax=  .309:Dmax=  .210}
01500> R0102:C00026-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01501>      ADD HYD                1.0 02:R4            5.52     .098 No_date   12:46   17.64  n/a     .000
01502>                       +     1.0 02:EXT6           .86     .023 No_date   12:30   21.64  n/a     .000
01503>                       +     1.0 02:EXT7           .47     .017 No_date   12:13   20.01  n/a     .000
01504>                     SUM=    1.0 01:J5            6.86     .128 No_date   12:40   18.31  n/a     .000
01505> R0102:C00027-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01506>      ROUTE CHANNEL   ->     1.0 02:J5            6.86     .128 No_date   12:40   18.31  n/a     .000
01507>        [RDT= 1.00] out<-    1.0 01:R5            6.86     .125 No_date   12:47   18.31  n/a     .000
01508>        [L/S/n=  237./ .644/.035]
01509>        {Vmax=  .501:Dmax=  .200}
01510> R0102:C00028-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01511>      ROUTE CHANNEL   ->     1.0 02:Pre10          .80     .020 No_date   12:12   12.99  n/a     .000
01512>        [RDT= 1.00] out<-    1.0 01:R6            .80     .019 No_date   12:15   12.99  n/a     .000
01513>        [L/S/n=   77./ .776/.035]
01514>        {Vmax=  .492:Dmax=  .014}
01515> R0102:C00029-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01516>      ROUTE CHANNEL   ->     1.0 02:Pre9           .83     .012 No_date   12:37   12.99  n/a     .000
01517>        [RDT= 1.00] out<-    1.0 01:R7            .83     .011 No_date   12:40   12.99  n/a     .000
01518>        [L/S/n=  159./1.576/.035]
01519>        {Vmax=  .797:Dmax=  .003}
01520> R0102:C00030-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01521>      ADD HYD                1.0 02:R6            .80     .019 No_date   12:15   13.03  n/a     .000
01522>                       +     1.0 02:EXT10          .20     .004 No_date   12:20   12.99  n/a     .000
01523>                     SUM=    1.0 01:J6            1.01     .023 No_date   12:15   13.02  n/a     .000
01524> R0102:C00031-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01525>      ROUTE CHANNEL   ->     1.0 02:J6            1.01     .023 No_date   12:15   13.02  n/a     .000
01526>        [RDT= 1.00] out<-    1.0 01:R8            1.01     .023 No_date   12:19   13.02  n/a     .000
01527>        [L/S/n=   79./ .522/.035]
01528>        {Vmax=  .423:Dmax=  .017}
01529> R0102:C00032-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01530>      ADD HYD                1.0 02:R8            1.01     .023 No_date   12:19   13.02  n/a     .000
01531>                       +     1.0 02:R7            .83     .011 No_date   12:40   13.00  n/a     .000
01532>                     SUM=    1.0 01:J7            1.83     .032 No_date   12:22   13.01  n/a     .000
01533> R0102:C00033-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01534>      ROUTE CHANNEL   ->     1.0 02:J7            1.83     .032 No_date   12:22   13.01  n/a     .000
01535>        [RDT= 1.00] out<-    1.0 01:R9            1.83     .032 No_date   12:23   13.01  n/a     .000
01536>        [L/S/n=   29./ .887/.035]
01537>        {Vmax=  .543:Dmax=  .022}
01538> R0102:C00034-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01539>      ADD HYD                1.0 02:EXT9          3.57     .074 No_date   12:25   15.46  n/a     .000
01540>                       +     1.0 02:R9            1.83     .032 No_date   12:23   13.02  n/a     .000
01541>                       +     1.0 02:EXT8           .83     .021 No_date   12:20   17.22  n/a     .000
01542>                       +     1.0 02:R5            6.86     .125 No_date   12:47   18.31  n/a     .000
01543>                     SUM=    1.0 01:J8           13.10     .233 No_date   12:35   16.72  n/a     .000
01544> R0102:C00035-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01545>      ROUTE PIPE      ->     1.0 02:J8           13.10     .233 No_date   12:35   16.72  n/a     .000
01546> *    [RDT= 1.00] out<-    1.0 01:Outlet        13.10     .229 No_date   12:42   16.72  n/a     .000
01547>        [L/S/n=    8./ .010/.013]
01548>        {Vmax=  .345:Dmax=  .812}
01549>        [Din=  .53:Dused=  .99]
01550> ##############################################################################
01551> # STORMS
01552> ##############################################################################
01553>   ** END OF RUN :  104
01554>
01555> ********************************************************************************
01556>
01557>
01558>
01559>
01560>
01561>  RUN#:COMMAND#
01562> R0105:C00001-----------------------------------------------------------------------
01563>      START
01564>        [TZERO =    .00 hrs on        0]
01565>        [METOUT=   2   (1=imperial, 2=metric output)]
01566>        [NSTORM=   1 ]
01567>        [NRUN   = 0105 ]
01568> ********************************************************************************
01569> #  SWMHYMO  / INPUT DATA FILE
01570> ********************************************************************************
01571> #  Project Name  : [5923 Ottawa St]
01572> #  Project Number: [P2710(e01)]
01573> #  Date          : [2025 FEB 05]
01574> #  Modeller      : [MM]
01575> #  Company       : JFSA Canada Inc.
01576> #  License #     : 2549237
01577> ********************************************************************************
01578> # Model developed to simulate runoff from subcatchments under pre development conditions
01579> ********************************************************************************
01580> R0105:C00002-----------------------------------------------------------------------
01581>      READ STORM
01582>       Filename = STORM.001
01583>       Comment  = 5 years SCS Type 2 Storm 24 Hours step 10 min, City of Ottawa
01584>       [SDT=10.00:SDUR=  24.00:PTOT=  64.11]
01585> ********************************************************************************
01586> # EXT1
01587> ********************************************************************************
01588> R0105:C00003-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01589>      CALIB NASHYD           1.0 01:EXT1          3.21     .095 No_date   12:41   28.73 .448     .000
01590>        [CN= 80.0: N= 3.00: Tp=  .72]
01591> ********************************************************************************
01592> # EXT2
01593> ********************************************************************************
01594> R0105:C00004-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01595>      CALIB NASHYD           1.0 01:EXT2           .28     .018 No_date   12:13   33.88 .529     .000
01596>        [CN= 85.0: N= 3.00: Tp=  .33]
01597> ********************************************************************************
01598> # EXT3
01599> ********************************************************************************
01600> R0105:C00005-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01601>      CALIB NASHYD           1.0 01:EXT3           .56     .030 No_date   12:13   28.73 .448     .000
01602>        [CN= 80.0: N= 3.00: Tp=  .32]
01603> ********************************************************************************
01604> # EXT4
01605> ********************************************************************************
01606> R0105:C00006-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01607>      CALIB NASHYD           1.0 01:EXT4           .31     .017 No_date   12:11   27.82 .434     .000
01608>        [CN= 79.0: N= 3.00: Tp=  .29]
01609> ********************************************************************************
01610> # EXT5
01611> ********************************************************************************
01612> R0105:C00007-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01613>      CALIB NASHYD           1.0 01:EXT5           .59     .021 No_date   12:22   25.29 .395     .000
01614>        [CN= 76.0: N= 3.00: Tp=  .45]
01615> ********************************************************************************
01616> # EXT6
01617> ********************************************************************************
01618> R0105:C00008-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01619>      CALIB NASHYD           1.0 01:EXT6           .86     .037 No_date   12:29   33.88 .529     .000
01620>        [CN= 85.0: N= 3.00: Tp=  .56]
01621> ********************************************************************************
01622> # EXT7
01623> ********************************************************************************
01624> R0105:C00009-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01625>      CALIB NASHYD           1.0 01:EXT7           .47     .028 No_date   12:13   31.69 .494     .000
01626>        [CN= 83.0: N= 3.00: Tp=  .32]
01627> ********************************************************************************
01628> # EXT8
01629> ********************************************************************************
01630> R0105:C00010-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01631>      CALIB NASHYD           1.0 01:EXT8           .83     .035 No_date   12:20   27.82 .434     .000
01632>        [CN= 79.0: N= 3.00: Tp=  .42]
01633> ********************************************************************************
01634> # EXT9
01635> ********************************************************************************
01636> R0105:C00011-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01637>      CALIB NASHYD           1.0 01:EXT9          3.57     .123 No_date   12:24   25.30 .395     .000
01638>        [CN= 76.0: N= 3.00: Tp=  .48]
01639> ********************************************************************************
01640> # EXT9a
01641> ********************************************************************************
01642> R0105:C00012-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01643>      CALIB NASHYD           1.0 01:EXT9a          .01     .001 No_date   12:00   26.94 .420     .000
01644>        [CN= 78.0: N= 3.00: Tp=  .04]
01645> ********************************************************************************
01646> # EXT10
01647> ********************************************************************************
01648> R0105:C00013-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01649>      CALIB NASHYD           1.0 01:EXT10          .20     .006 No_date   12:20   21.64 .338     .000
01650>        [CN= 71.0: N= 3.00: Tp=  .42]
01651> ********************************************************************************
01652> # Pre2
01653> ********************************************************************************
01654> R0105:C00014-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01655>      CALIB NASHYD           1.0 01:Pre2           .57     .022 No_date   12:22   26.95 .420     .000
01656>        [CN= 78.0: N= 3.00: Tp=  .46]
01657> ********************************************************************************
01658> # Pre9
01659> ********************************************************************************
01660> R0105:C00015-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01661>      CALIB NASHYD           1.0 01:Pre9           .83     .020 No_date   12:36   21.65 .338     .000
01662>        [CN= 71.0: N= 3.00: Tp=  .64]
01663> ********************************************************************************
01664> # Pre10
01665> ********************************************************************************
01666> R0105:C00016-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01667>      CALIB NASHYD           1.0 01:Pre10          .80     .033 No_date   12:11   21.65 .338     .000
01668>        [CN= 71.0: N= 3.00: Tp=  .29]
01669> ********************************************************************************
01670> # Pre11
01671> ********************************************************************************
01672> R0105:C00017-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01673>      CALIB NASHYD           1.0 01:Pre11          .07     .005 No_date   12:07   26.94 .420     .000
01674>        [CN= 78.0: N= 3.00: Tp=  .21]
01675> ********************************************************************************
01676> R0105:C00018-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01677>      ADD HYD                1.0 02:EXT2           .28     .018 No_date   12:13   33.88  n/a     .000
01678>                       +     1.0 02:Pre2           .57     .022 No_date   12:22   26.95  n/a     .000
01679>                     SUM=    1.0 01:J1             .85     .038 No_date   12:17   29.27  n/a     .000
01680> R0105:C00019-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01681>      ROUTE CHANNEL   ->     1.0 02:J1             .85     .038 No_date   12:17   29.27  n/a     .000
01682>        [RDT= 1.00] out<-    1.0 01:R1             .85     .036 No_date   12:24   29.27  n/a     .000
01683>        [L/S/n=  143./ .394/.035]
01684>        {Vmax=  .318:Dmax=  .127}
01685> R0105:C00020-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01686>      ADD HYD                1.0 02:R1             .85     .036 No_date   12:24   29.27  n/a     .000
01687>                       +     1.0 02:EXT3           .56     .030 No_date   12:13   28.73  n/a     .000
01688>                       +     1.0 02:EXT1          3.21     .095 No_date   12:41   28.73  n/a     .000
01689>                     SUM=    1.0 01:J2            4.62     .148 No_date   12:29   28.83  n/a     .000
01690> R0105:C00021-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01691>      ROUTE CHANNEL   ->     1.0 02:J2            4.62     .148 No_date   12:29   28.83  n/a     .000
01692>        [RDT= 1.00] out<-    1.0 01:R2            4.62     .147 No_date   12:32   28.83  n/a     .000
01693>        [L/S/n=   73./ .425/.035]
01694>        {Vmax=  .455:Dmax=  .227}
01695> R0105:C00022-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01696>      ADD HYD                1.0 02:R2            4.62     .147 No_date   12:32   28.83  n/a     .000
01697>                       +     1.0 02:EXT4           .31     .017 No_date   12:11   27.82  n/a     .000
01698>                     SUM=    1.0 01:J3            4.93     .158 No_date   12:29   28.77  n/a     .000
01699> R0105:C00023-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01700>      ROUTE CHANNEL   ->     1.0 02:J3            4.93     .158 No_date   12:29   28.77  n/a     .000
01701>        [RDT= 1.00] out<-    1.0 01:R3            4.93     .157 No_date   12:32   28.77  n/a     .000
01702>        [L/S/n=   92./ .274/.035]
01703>        {Vmax=  .373:Dmax=  .235}
01704> R0105:C00024-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01705>      ADD HYD                1.0 02:R3            4.93     .157 No_date   12:32   28.77  n/a     .000
01706>                       +     1.0 02:EXT5           .59     .021 No_date   12:22   25.29  n/a     .000
01707>                     SUM=    1.0 01:J4            5.52     .177 No_date   12:31   28.40  n/a     .000
01708> R0105:C00025-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01709>      ROUTE CHANNEL   ->     1.0 02:J4            5.52     .177 No_date   12:31   28.40  n/a     .000
01710>        [RDT= 1.00] out<-    1.0 01:R4            5.52     .165 No_date   12:42   28.40  n/a     .000
01711>        [L/S/n=  251./ .190/.035]
01712>        {Vmax=  .361:Dmax=  .260}
01713> R0105:C00026-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01714>      ADD HYD                1.0 02:R4            5.52     .165 No_date   12:42   28.40  n/a     .000
01715>                       +     1.0 02:EXT6           .86     .037 No_date   12:29   33.88  n/a     .000
01716>                       +     1.0 02:EXT7           .47     .028 No_date   12:13   31.69  n/a     .000
01717>                     SUM=    1.0 01:J5            6.86     .215 No_date   12:37   29.31  n/a     .000
01718> R0105:C00027-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01719>      ROUTE CHANNEL   ->     1.0 02:J5            6.86     .215 No_date   12:37   29.31  n/a     .000
01720>        [RDT= 1.00] out<-    1.0 01:R5            6.86     .212 No_date   12:42   29.31  n/a     .000
01721>        [L/S/n=  237./ .644/.035]
01722>        {Vmax=  .593:Dmax=  .247}
01723> R0105:C00028-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01724>      ROUTE CHANNEL   ->     1.0 02:Pre10          .80     .033 No_date   12:11   21.65  n/a     .000
01725>        [RDT= 1.00] out<-    1.0 01:R6            .80     .033 No_date   12:14   21.65  n/a     .000
01726>        [L/S/n=   77./ .776/.035]
01727>        {Vmax=  .492:Dmax=  .024}
01728> R0105:C00029-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01729>      ROUTE CHANNEL   ->     1.0 02:Pre9           .83     .020 No_date   12:36   21.65  n/a     .000
01730>        [RDT= 1.00] out<-    1.0 01:R7            .83     .019 No_date   12:40   21.65  n/a     .000
01731>        [L/S/n=  159./1.576/.035]
01732>        {Vmax=  .797:Dmax=  .006}
01733> R0105:C00030-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01734>      ADD HYD                1.0 02:R6            .80     .033 No_date   12:14   21.70  n/a     .000
01735>                       +     1.0 02:EXT10          .20     .006 No_date   12:20   21.64  n/a     .000
01736>                     SUM=    1.0 01:J6            1.01     .039 No_date   12:15   21.68  n/a     .000
01737> R0105:C00031-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01738>      ROUTE CHANNEL   ->     1.0 02:J6            1.01     .039 No_date   12:15   21.68  n/a     .000
01739>        [RDT= 1.00] out<-    1.0 01:R8            1.01     .038 No_date   12:18   21.68  n/a     .000
01740>        [L/S/n=   79./ .522/.035]
01741>        {Vmax=  .423:Dmax=  .029}
01742> R0105:C00032-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01743>      ADD HYD                1.0 02:R8            1.01     .038 No_date   12:18   21.69  n/a     .000
01744>                       +     1.0 02:R7            .83     .019 No_date   12:40   21.66  n/a     .000
01745>                     SUM=    1.0 01:J7            1.83     .054 No_date   12:22   21.67  n/a     .000
01746> R0105:C00033-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01747>      ROUTE CHANNEL   ->     1.0 02:J7            1.83     .054 No_date   12:22   21.67  n/a     .000
01748>        [RDT= 1.00] out<-    1.0 01:R9            1.83     .054 No_date   12:23   21.67  n/a     .000
01749>        [L/S/n=   29./ .887/.035]
01750>        {Vmax=  .543:Dmax=  .037}
01751> R0105:C00034-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01752>      ADD HYD                1.0 02:EXT9          3.57     .123 No_date   12:24   25.30  n/a     .000
01753>                       +     1.0 02:R9            1.83     .054 No_date   12:23   21.68  n/a     .000
01754>                       +     1.0 02:EXT8           .83     .035 No_date   12:20   27.82  n/a     .000
01755>                       +     1.0 02:R5            6.86     .212 No_date   12:42   29.31  n/a     .000
01756>                     SUM=    1.0 01:J8           13.10     .400 No_date   12:33   27.05  n/a     .000
01757> R0105:C00035-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01758>      ROUTE PIPE      ->     1.0 02:J8           13.10     .400 No_date   12:33   27.05  n/a     .000
01759> *    [RDT= 1.00] out<-    1.0 01:Outlet        13.10     .398 No_date   12:35   27.05  n/a     .000
01760>        [L/S/n=    8./ .010/.013]
01761>        {Vmax=  .395:Dmax=  .994}
01762>        [Din=  .53:Dused=  1.21)
01763> ##############################################################################
01764> # STORMS
01765> ##############################################################################
01766>   ** END OF RUN :  109
01767>
01768> ********************************************************************************
01769>
01770>
01771>
01772>
01773>
01774>  RUN#:COMMAND#
01775> R0110:C00001-----------------------------------------------------------------------
01776>      START
01777>        [TZERO =    .00 hrs on        0]
01778>        [METOUT=   2   (1=imperial, 2=metric output)]
01779>        [NSTORM=   1 ]
01780>        [NRUN   = 0110 ]
01781> ********************************************************************************
01782> #  SWMHYMO  / INPUT DATA FILE
01783> ********************************************************************************
01784> #  Project Name  : [5923 Ottawa St]
01785> #  Project Number: [P2710(e01)]
01786> #  Date          : [2025 FEB 05]
01787> #  Modeller      : [MM]
01788> #  Company       : JFSA Canada Inc.
01789> #  License #     : 2549237
01790> ********************************************************************************
01791> # Model developed to simulate runoff from subcatchments under pre development conditions
01792> ********************************************************************************
01793> R0110:C00002-----------------------------------------------------------------------
01794>      READ STORM
01795>       Filename = STORM.001
01796>       Comment  = 10 years SCS Type 2 Storm 24 Hours step 10 min, City of Ottawa
01797>       [SDT=10.00:SDUR=  24.00:PTOT=  74.35]
01798> ********************************************************************************
01799> # EXT1
01800> ********************************************************************************
```

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01801> R0110:C00003------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01802>      CALIB NASHYD           1.0 01:EXT1          3.21     .121 No_date   12:40   36.46 .490     .000
01803>        [CN= 80.0: N= 3.00: Tp=  .72]
01804> #*******************************************************************************
01805> # EXT2
01806> #*******************************************************************************
01807> R0110:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01808>      CALIB NASHYD           1.0 01:EXT2           .28     .022 No_date   12:13   42.40 .570     .000
01809>        [CN= 85.0: N= 3.00: Tp=  .33]
01810> #*******************************************************************************
01811> # EXT3
01812> #*******************************************************************************
01813> R0110:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01814>      CALIB NASHYD           1.0 01:EXT3           .56     .038 No_date   12:13   36.46 .490     .000
01815>        [CN= 80.0: N= 3.00: Tp=  .32]
01816> #*******************************************************************************
01817> # EXT4
01818> #*******************************************************************************
01819> R0110:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01820>      CALIB NASHYD           1.0 01:EXT4           .31     .022 No_date   12:11   35.39 .476     .000
01821>        [CN= 79.0: N= 3.00: Tp=  .29]
01822> #*******************************************************************************
01823> # EXT5
01824> #*******************************************************************************
01825> R0110:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01826>      CALIB NASHYD           1.0 01:EXT5           .59     .028 No_date   12:22   32.39 .436     .000
01827>        [CN= 76.0: N= 3.00: Tp=  .45]
01828> #*******************************************************************************
01829> # EXT6
01830> #*******************************************************************************
01831> R0110:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01832>      CALIB NASHYD           1.0 01:EXT6           .86     .046 No_date   12:29   42.40 .570     .000
01833>        [CN= 85.0: N= 3.00: Tp=  .56]
01834> #*******************************************************************************
01835> # EXT7
01836> #*******************************************************************************
01837> R0110:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01838>      CALIB NASHYD           1.0 01:EXT7           .47     .035 No_date   12:13   39.90 .537     .000
01839>        [CN= 83.0: N= 3.00: Tp=  .32]
01840> #*******************************************************************************
01841> # EXT8
01842> #*******************************************************************************
01843> R0110:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01844>      CALIB NASHYD           1.0 01:EXT8           .83     .045 No_date   12:19   35.39 .476     .000
01845>        [CN= 79.0: N= 3.00: Tp=  .42]
01846> #*******************************************************************************
01847> # EXT9
01848> #*******************************************************************************
01849> R0110:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01850>      CALIB NASHYD           1.0 01:EXT9          3.57     .158 No_date   12:24   32.39 .436     .000
01851>        [CN= 76.0: N= 3.00: Tp=  .48]
01852> #*******************************************************************************
01853> # EXT9a
01854> #*******************************************************************************
01855> R0110:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01856>      CALIB NASHYD           1.0 01:EXT9a          .01     .002 No_date   12:00   34.35 .462     .000
01857>        [CN= 78.0: N= 3.00: Tp=  .04]
01858> #*******************************************************************************
01859> # EXT10
01860> #*******************************************************************************
01861> R0110:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01862>      CALIB NASHYD           1.0 01:EXT10          .20     .008 No_date   12:20   27.99 .377     .000
01863>        [CN= 71.0: N= 3.00: Tp=  .42]
01864> #*******************************************************************************
01865> # Pre2
01866> #*******************************************************************************
01867> R0110:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01868>      CALIB NASHYD           1.0 01:Pre2           .57     .028 No_date   12:22   34.36 .462     .000
01869>        [CN= 78.0: N= 3.00: Tp=  .46]
01870> #*******************************************************************************
01871> # Pre9
01872> #*******************************************************************************
01873> R0110:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01874>      CALIB NASHYD           1.0 01:Pre9           .83     .026 No_date   12:36   28.00 .377     .000
01875>        [CN= 71.0: N= 3.00: Tp=  .64]
01876> #*******************************************************************************
01877> # Pre10
01878> #*******************************************************************************
01879> R0110:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01880>      CALIB NASHYD           1.0 01:Pre10          .80     .043 No_date   12:11   28.00 .377     .000
01881>        [CN= 71.0: N= 3.00: Tp=  .29]
01882> #*******************************************************************************
01883> # Pre11
01884> #*******************************************************************************
01885> R0110:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01886>      CALIB NASHYD           1.0 01:Pre11          .07     .006 No_date   12:07   34.35 .462     .000
01887>        [CN= 78.0: N= 3.00: Tp=  .21]
01888> #*******************************************************************************
01889> R0110:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01890>      ADD HYD                1.0 02:EXT2           .28     .022 No_date   12:13   53.21 n/a      .000
01891>                           +    1.0 02:Pre2           .57     .028 No_date   12:22   34.36 n/a      .000
01892>                         SUM=   1.0 01:J1            .85     .049 No_date   12:17   37.05 n/a      .000
01893> R0110:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01894>      ROUTE CHANNEL    ->    1.0 02:J1            .85     .049 No_date   12:17   37.05 n/a      .000
01895>        [RDT= 1.00] out<-    1.0 01:R1            .85     .046 No_date   12:23   37.05 n/a      .000
01896>          [L/S/n=  143./ .394/.035]
01897>          (Vmax=  .345:Dmax=  .142)
01898> R0110:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01899>      ADD HYD                1.0 02:R1            .85     .046 No_date   12:23   37.05 n/a      .000
01900>                           +    1.0 02:EXT3          .56     .038 No_date   12:13   36.46 n/a      .000
01901>                           +    1.0 02:EXT1         3.21     .121 No_date   12:40   36.46 n/a      .000
01902>                         SUM=   1.0 01:J2           4.62     .189 No_date   12:29   36.57 n/a      .000
01903> R0110:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01904>      ROUTE CHANNEL    ->    1.0 02:J2           4.62     .189 No_date   12:29   36.57 n/a      .000
01905>        [RDT= 1.00] out<-    1.0 01:R2           4.62     .188 No_date   12:31   36.57 n/a      .000
01906>          [L/S/n=   73./ .425/.035]
01907>          (Vmax=  .485:Dmax=  .250)
01908> R0110:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01909>      ADD HYD                1.0 02:R2           4.62     .188 No_date   12:31   36.57 n/a      .000
01910>                           +    1.0 02:EXT4          .31     .022 No_date   12:11   35.39 n/a      .000
01911>                         SUM=   1.0 01:J3           4.93     .202 No_date   12:28   36.49 n/a      .000
01912> R0110:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01913>      ROUTE CHANNEL    ->    1.0 02:J3           4.93     .202 No_date   12:28   36.49 n/a      .000
01914>        [RDT= 1.00] out<-    1.0 01:R3           4.93     .200 No_date   12:31   36.49 n/a      .000
01915>          [L/S/n=   92./ .274/.035]
01916>          (Vmax=  .398:Dmax=  .259)
01917> R0110:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01918>      ADD HYD                1.0 02:R3           4.93     .200 No_date   12:31   36.49 n/a      .000
01919>                           +    1.0 02:EXT5          .59     .028 No_date   12:22   32.39 n/a      .000
01920>                         SUM=   1.0 01:J4           5.52     .227 No_date   12:30   36.05 n/a      .000
01921> R0110:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01922>      ROUTE CHANNEL    ->    1.0 02:J4           5.52     .227 No_date   12:30   36.05 n/a      .000
01923>        [RDT= 1.00] out<-    1.0 01:R4           5.52     .213 No_date   12:40   36.05 n/a      .000
01924>          [L/S/n=  251./ .190/.035]
01925>          (Vmax=  .388:Dmax=  .290)
01926> R0110:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01927>      ADD HYD                1.0 02:R4           5.52     .213 No_date   12:40   36.05 n/a      .000
01928>                           +    1.0 02:EXT6          .86     .046 No_date   12:29   42.40 n/a      .000
01929>                           +    1.0 02:EXT7          .47     .035 No_date   12:13   39.90 n/a      .000
01930>                         SUM=   1.0 01:J5           6.86     .277 No_date   12:36   37.12 n/a      .000
01931> R0110:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01932>      ROUTE CHANNEL    ->    1.0 02:J5           6.86     .277 No_date   12:36   37.12 n/a      .000
01933>        [RDT= 1.00] out<-    1.0 01:R5           6.86     .272 No_date   12:41   37.12 n/a      .000
01934>          [L/S/n=  237./ .644/.035]
01935>          (Vmax=  .628:Dmax=  .270)
01936> R0110:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01937>      ROUTE CHANNEL    ->    1.0 02:Pre10         .80     .043 No_date   12:11   28.00 n/a      .000
01938>        [RDT= 1.00] out<-    1.0 01:R6           .80     .043 No_date   12:14   28.00 n/a      .000
01939>          [L/S/n=   77./ .776/.035]
01940>          (Vmax=  .492:Dmax=  .032)
01941> R0110:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01942>      ROUTE CHANNEL    ->    1.0 02:Pre9          .83     .026 No_date   12:36   28.00 n/a      .000
01943>        [RDT= 1.00] out<-    1.0 01:R7           .83     .025 No_date   12:39   28.00 n/a      .000
01944>          [L/S/n=  159./1.576/.035]
01945>          (Vmax=  .797:Dmax=  .008)
01946> R0110:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01947>      ADD HYD                1.0 02:R6           .80     .043 No_date   12:14   28.05 n/a      .000
01948>                           +    1.0 02:EXT10         .20     .008 No_date   12:20   27.99 n/a      .000
01949>                         SUM=   1.0 01:J6           1.01     .051 No_date   12:15   28.04 n/a      .000
01950> R0110:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01951>      ROUTE CHANNEL    ->    1.0 02:J6           1.01     .051 No_date   12:15   28.04 n/a      .000
01952>        [RDT= 1.00] out<-    1.0 01:R8           1.01     .050 No_date   12:18   28.04 n/a      .000
01953>          [L/S/n=   79./ .522/.035]
01954>          (Vmax=  .423:Dmax=  .037)
01955> R0110:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01956>      ADD HYD                1.0 02:R8           1.01     .050 No_date   12:18   28.04 n/a      .000
01957>                           +    1.0 02:R7           .83     .025 No_date   12:39   28.01 n/a      .000
01958>                         SUM=   1.0 01:J7           1.83     .070 No_date   12:21   28.03 n/a      .000
01959> R0110:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01960>      ROUTE CHANNEL    ->    1.0 02:J7           1.83     .070 No_date   12:21   28.03 n/a      .000
01961>        [RDT= 1.00] out<-    1.0 01:R9           1.83     .070 No_date   12:22   28.03 n/a      .000
01962>          [L/S/n=   29./ .887/.035]
01963>          (Vmax=  .543:Dmax=  .048)
01964> R0110:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01965>      ADD HYD                1.0 02:EXT9         3.57     .158 No_date   12:24   32.39 n/a      .000
01966>                           +    1.0 02:R9           1.83     .070 No_date   12:22   28.03 n/a      .000
01967>                           +    1.0 02:EXT8          .83     .045 No_date   12:19   35.39 n/a      .000
01968>                           +    1.0 02:R5           6.86     .272 No_date   12:41   37.12 n/a      .000
01969>                         SUM=   1.0 01:J8          13.10     .517 No_date   12:32   34.45 n/a      .000
01970> R0110:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01971>      ROUTE PIPE       ->    1.0 02:J8          13.10     .517 No_date   12:32   34.45 n/a      .000
01972> *    [RDT= 1.00] out<-    1.0 01:Outlet        13.10     .515 No_date   12:35   34.45 n/a      .000
01973>          [L/S/n=    8./ .010/.013]
01974>          (Vmax=  .422:Dmax= 1.095)
01975>          (Din=  .53:Dused= 1.33)
01976> ###############################################################################
01977> # STORMS
01978> ###############################################################################
01979> ** END OF RUN :  124
01980>
01981> *******************************************************************************
01982>
01983>
01984>
01985>
01986>
01987> RUN#:COMMAND#
01988> R0125:C00001------------------------------------------------------------------------------
01989>       START
01990>         [TZERO =    .00 hrs on        0]
01991>         [METOUT=   2    (1=imperial, 2=metric output)]
01992>         [NSTORM=   1 ]
01993>         [NRUN  = 0125 ]
01994> #*******************************************************************************
01995> #  SWMHYMO  / INPUT DATA FILE
01996> #*******************************************************************************
01997> #  Project Name  : [5923 Ottawa St]
01998> #  Project Number: [P2710(e01)]
01999> #  Date          : [2025 FEB 05]
02000> #  Modeller      : [MM]
02001> #  Company       : JFSA Canada Inc.
02002> #  License #     : 2549237
02003> #*******************************************************************************
02004> # Model developed to simulate runoff from subcatchments under pre development conditions
02005> #*******************************************************************************
02006> R0125:C00002------------------------------------------------------------------------------
02007>       READ STORM
02008>        Filename = STORM.001
02009>        Comment  = 25 years SCS Type 2 Storm 24 Hours step 10 min, City of Ottawa
02010>        [SDT=10.00:SDUR=  24.00:PTOT=  86.89]
02011> #*******************************************************************************
02012> # EXT1
02013> #*******************************************************************************
02014> R0125:C00003------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02015>      CALIB NASHYD           1.0 01:EXT1          3.21     .155 No_date   12:40   46.39 .534     .000
02016>        [CN= 80.0: N= 3.00: Tp=  .72]
02017> #*******************************************************************************
02018> # EXT2
02019> #*******************************************************************************
02020> R0125:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02021>      CALIB NASHYD           1.0 01:EXT2           .28     .028 No_date   12:13   53.21 .612     .000
02022>        [CN= 85.0: N= 3.00: Tp=  .33]
02023> #*******************************************************************************
02024> # EXT3
02025> #*******************************************************************************
02026> R0125:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02027>      CALIB NASHYD           1.0 01:EXT3           .56     .048 No_date   12:13   46.39 .534     .000
02028>        [CN= 80.0: N= 3.00: Tp=  .32]
02029> #*******************************************************************************
02030> # EXT4
02031> #*******************************************************************************
02032> R0125:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02033>      CALIB NASHYD           1.0 01:EXT4           .31     .028 No_date   12:11   45.14 .520     .000
02034>        [CN= 79.0: N= 3.00: Tp=  .29]
02035> #*******************************************************************************
02036> # EXT5
02037> #*******************************************************************************
02038> R0125:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02039>      CALIB NASHYD           1.0 01:EXT5           .59     .036 No_date   12:21   41.61 .479     .000
02040>        [CN= 76.0: N= 3.00: Tp=  .45]
02041> #*******************************************************************************
02042> # EXT6
02043> #*******************************************************************************
02044> R0125:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02045>      CALIB NASHYD           1.0 01:EXT6           .86     .058 No_date   12:28   53.21 .612     .000
02046>        [CN= 85.0: N= 3.00: Tp=  .56]
02047> #*******************************************************************************
02048> # EXT7
02049> #*******************************************************************************
02050> R0125:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02051>      CALIB NASHYD           1.0 01:EXT7           .47     .045 No_date   12:13   50.35 .580     .000
02052>        [CN= 83.0: N= 3.00: Tp=  .32]
02053> #*******************************************************************************
02054> # EXT8
02055> #*******************************************************************************
02056> R0125:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02057>      CALIB NASHYD           1.0 01:EXT8           .83     .058 No_date   12:19   45.14 .520     .000
02058>        [CN= 79.0: N= 3.00: Tp=  .42]
02059> #*******************************************************************************
02060> # EXT9
02061> #*******************************************************************************
02062> R0125:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02063>      CALIB NASHYD           1.0 01:EXT9          3.57     .205 No_date   12:23   41.62 .479     .000
02064>        [CN= 76.0: N= 3.00: Tp=  .48]
02065> #*******************************************************************************
02066> # EXT9a
02067> #*******************************************************************************
02068> R0125:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02069>      CALIB NASHYD           1.0 01:EXT9a          .01     .002 No_date   12:00   43.92 .506     .000
02070>        [CN= 78.0: N= 3.00: Tp=  .04]
02071> #*******************************************************************************
02072> # EXT10
02073> #*******************************************************************************
02074> R0125:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02075>      CALIB NASHYD           1.0 01:EXT10          .20     .011 No_date   12:20   36.34 .418     .000
02076>        [CN= 71.0: N= 3.00: Tp=  .42]
02077> #*******************************************************************************
02078> # Pre2
02079> #*******************************************************************************
02080> R0125:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02081>      CALIB NASHYD           1.0 01:Pre2           .57     .036 No_date   12:22   43.93 .506     .000
02082>        [CN= 78.0: N= 3.00: Tp=  .46]
02083> #*******************************************************************************
02084> # Pre9
02085> #*******************************************************************************
02086> R0125:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02087>      CALIB NASHYD           1.0 01:Pre9           .83     .033 No_date   12:35   36.35 .418     .000
02088>        [CN= 71.0: N= 3.00: Tp=  .64]
02089> #*******************************************************************************
02090> # Pre10
02091> #*******************************************************************************
02092> R0125:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02093>      CALIB NASHYD           1.0 01:Pre10          .80     .057 No_date   12:11   36.35 .418     .000
02094>        [CN= 71.0: N= 3.00: Tp=  .29]
02095> #*******************************************************************************
02096> # Pre11
02097> #*******************************************************************************
02098> R0125:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02099>      CALIB NASHYD           1.0 01:Pre11          .07     .007 No_date   12:06   43.93 .506     .000
02100>        [CN= 78.0: N= 3.00: Tp=  .21]
02101> #*******************************************************************************
02102> R0125:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02103>      ADD HYD                1.0 02:EXT2           .28     .028 No_date   12:13   53.21 n/a      .000
02104>                           +    1.0 02:Pre2           .57     .036 No_date   12:22   43.93 n/a      .000
02105>                         SUM=   1.0 01:J1            .85     .062 No_date   12:17   47.04 n/a      .000
02106> R0125:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02107>      ROUTE CHANNEL    ->    1.0 02:J1            .85     .062 No_date   12:17   47.04 n/a      .000
02108>        [RDT= 1.00] out<-    1.0 01:R1            .85     .060 No_date   12:23   47.04 n/a      .000
02109>          [L/S/n=  143./ .394/.035]
02110>          (Vmax=  .368:Dmax=  .157)
02111> R0125:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02112>      ADD HYD                1.0 02:R1            .85     .060 No_date   12:23   47.04 n/a      .000
02113>                           +    1.0 02:EXT3          .56     .048 No_date   12:13   46.39 n/a      .000
02114>                           +    1.0 02:EXT1         3.21     .155 No_date   12:40   46.39 n/a      .000
02115>                         SUM=   1.0 01:J2           4.62     .242 No_date   12:28   46.51 n/a      .000
02116> R0125:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02117>      ROUTE CHANNEL    ->    1.0 02:J2           4.62     .242 No_date   12:28   46.51 n/a      .000
02118>        [RDT= 1.00] out<-    1.0 01:R2           4.62     .241 No_date   12:30   46.51 n/a      .000
02119>          [L/S/n=   73./ .425/.035]
02120>          (Vmax=  .518:Dmax=  .277)
02121> R0125:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02122>      ADD HYD                1.0 02:R2           4.62     .241 No_date   12:30   46.51 n/a      .000
02123>                           +    1.0 02:EXT4          .31     .028 No_date   12:11   45.14 n/a      .000
02124>                         SUM=   1.0 01:J3           4.93     .259 No_date   12:28   46.42 n/a      .000
02125> R0125:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02126>      ROUTE CHANNEL    ->    1.0 02:J3           4.93     .259 No_date   12:28   46.42 n/a      .000
02127>        [RDT= 1.00] out<-    1.0 01:R3           4.93     .257 No_date   12:31   46.42 n/a      .000
02128>          [L/S/n=   92./ .274/.035]
02129>          (Vmax=  .424:Dmax=  .286)
02130> R0125:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02131>      ADD HYD                1.0 02:R3           4.93     .257 No_date   12:31   46.42 n/a      .000
02132>                           +    1.0 02:EXT5          .59     .036 No_date   12:21   41.61 n/a      .000
02133>                         SUM=   1.0 01:J4           5.52     .291 No_date   12:29   45.90 n/a      .000
02134> R0125:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02135>      ROUTE CHANNEL    ->    1.0 02:J4           5.52     .291 No_date   12:29   45.90 n/a      .000
02136>        [RDT= 1.00] out<-    1.0 01:R4           5.52     .275 No_date   12:39   45.90 n/a      .000
02137>          [L/S/n=  251./ .190/.035]
02138>          (Vmax=  .417:Dmax=  .323)
02139> R0125:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02140>      ADD HYD                1.0 02:R4           5.52     .275 No_date   12:39   45.90 n/a      .000
02141>                           +    1.0 02:EXT6          .86     .058 No_date   12:28   53.21 n/a      .000
02142>                           +    1.0 02:EXT7          .47     .045 No_date   12:13   50.35 n/a      .000
02143>                         SUM=   1.0 01:J5           6.86     .357 No_date   12:35   47.13 n/a      .000
02144> R0125:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02145>      ROUTE CHANNEL    ->    1.0 02:J5           6.86     .357 No_date   12:35   47.13 n/a      .000
02146>        [RDT= 1.00] out<-    1.0 01:R5           6.86     .352 No_date   12:39   47.13 n/a      .000
02147>          [L/S/n=  237./ .644/.035]
02148>          (Vmax=  .681:Dmax=  .301)
02149> R0125:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02150>      ROUTE CHANNEL    ->    1.0 02:Pre10         .80     .057 No_date   12:11   36.35 n/a      .000
02151>        [RDT= 1.00] out<-    1.0 01:R6           .80     .056 No_date   12:14   36.35 n/a      .000
02152>          [L/S/n=   77./ .776/.035]
02153>          (Vmax=  .492:Dmax=  .041)
02154> R0125:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02155>      ROUTE CHANNEL    ->    1.0 02:Pre9          .83     .033 No_date   12:35   36.35 n/a      .000
02156>        [RDT= 1.00] out<-    1.0 01:R7           .83     .033 No_date   12:39   36.35 n/a      .000
02157>          [L/S/n=  159./1.576/.035]
02158>          (Vmax=  .797:Dmax=  .010)
02159> R0125:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02160>      ADD HYD                1.0 02:R6           .80     .056 No_date   12:14   36.41 n/a      .000
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02161>                    +     1.0 02:EXT10          .20     .011 No_date   12:20   36.34  n/a     .000
02162>                  SUM=    1.0 01:J6            1.01     .066 No_date   12:15   36.40  n/a     .000
02163> R0125:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02164>     ROUTE CHANNEL   ->    1.0 02:J6            1.01     .066 No_date   12:15   36.40  n/a     .000
02165>      [RDT= 1.00] out<-    1.0 01:R8            1.01     .065 No_date   12:18   36.40  n/a     .000
02166>       [L/S/n=   79./ .522/.035]
02167>       {Vmax=  .423:Dmax=  .049}
02168> R0125:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02169>     ADD HYD             1.0 02:R8            1.01     .065 No_date   12:18   36.40  n/a     .000
02170>                    +    1.0 02:R7             .83     .033 No_date   12:39   36.36  n/a     .000
02171>                  SUM=    1.0 01:J7            1.83     .092 No_date   12:21   36.38  n/a     .000
02172> R0125:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02173>     ROUTE CHANNEL   ->    1.0 02:J7            1.83     .092 No_date   12:21   36.38  n/a     .000
02174>      [RDT= 1.00] out<-    1.0 01:R9            1.83     .092 No_date   12:22   36.38  n/a     .000
02175>       [L/S/n=   29./ .887/.035]
02176>       {Vmax=  .543:Dmax=  .062}
02177> R0125:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02178>     ADD HYD             1.0 02:EXT9          3.57     .205 No_date   12:23   41.62  n/a     .000
02179>                    +    1.0 02:R9            1.83     .092 No_date   12:22   36.39  n/a     .000
02180>                    +    1.0 02:EXT8           .83     .058 No_date   12:19   45.14  n/a     .000
02181>                    +    1.0 02:R5            6.86     .352 No_date   12:39   47.13  n/a     .000
02182>                  SUM=    1.0 01:J8           13.10     .675 No_date   12:31   44.00  n/a     .000
02183> R0125:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02184>     ROUTE PIPE      ->    1.0 02:J8           13.10     .675 No_date   12:31   44.00  n/a     .000
02185> *   [RDT= 1.00] out<-    1.0 01:Outlet        13.10     .674 No_date   12:33   44.00  n/a     .000
02186>       [L/S/n=    8./ .010/.013]
02187>       {Vmax=  .451:Dmax= 1.210}
02188>       [Din=  .53:Dused= 1.47)
02189> ###############################################################################
02190> # STORMS
02191> ###############################################################################
02192>  ** END OF RUN :  149
02193>
02194> *******************************************************************************************************
02195>
02196>
02197>
02198>
02199>
02200>  RUN#:COMMAND#
02201> R0150:C00001------------------------------------------------------------------------------------------
02202>     START
02203>      [TZERO =    .00 hrs on        0]
02204>      [METOUT=   2   (1=imperial, 2=metric output)]
02205>      [NSTORM=   1 ]
02206>      [NRUN  = 0150 ]
02207> *******************************************************************************************************
02208> #  SWMHYMO  / INPUT DATA FILE
02209> *******************************************************************************************************
02210> #  Project Name  : [5923 Ottawa St]
02211> #  Project Number: [P2710(e01)]
02212> #  Date          : [2025 FEB 05]
02213> #  Modeller      : [MM]
02214> #  Company       : JFSA Canada Inc.
02215> #  License #     : 2549237
02216> *******************************************************************************************************
02217> # Model developed to simulate runoff from subcatchments under pre development conditions
02218> *******************************************************************************************************
02219> R0150:C00002------------------------------------------------------------------------------------------
02220>      READ STORM
02221>       Filename = STORM.001
02222>       Comment  = 50 years SCS Type 2 Storm 24 Hours step 10 min, City of Ottawa
02223>       [SDT=10.00:SDUR=  24.00:PTOT=  96.53]
02224> *******************************************************************************************************
02225> # EXT1
02226> *******************************************************************************************************
02227> R0150:C00003------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02228>     CALIB NASHYD        1.0 01:EXT1          3.21     .182 No_date   12:40   54.31 .563     .000
02229>       [CN= 80.0: N= 3.00: Tp=  .72]
02230> *******************************************************************************************************
02231> # EXT2
02232> *******************************************************************************************************
02233> R0150:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02234>     CALIB NASHYD        1.0 01:EXT2           .28     .033 No_date   12:13   61.73 .640     .000
02235>       [CN= 85.0: N= 3.00: Tp=  .33]
02236> *******************************************************************************************************
02237> # EXT3
02238> *******************************************************************************************************
02239> R0150:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02240>     CALIB NASHYD        1.0 01:EXT3           .56     .057 No_date   12:13   54.31 .563     .000
02241>       [CN= 80.0: N= 3.00: Tp=  .32]
02242> *******************************************************************************************************
02243> # EXT4
02244> *******************************************************************************************************
02245> R0150:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02246>     CALIB NASHYD        1.0 01:EXT4           .31     .033 No_date   12:11   52.94 .548     .000
02247>       [CN= 79.0: N= 3.00: Tp=  .29]
02248> *******************************************************************************************************
02249> # EXT5
02250> *******************************************************************************************************
02251> R0150:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02252>     CALIB NASHYD        1.0 01:EXT5           .59     .042 No_date   12:21   49.04 .508     .000
02253>       [CN= 76.0: N= 3.00: Tp=  .45]
02254> *******************************************************************************************************
02255> # EXT6
02256> *******************************************************************************************************
02257> R0150:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02258>     CALIB NASHYD        1.0 01:EXT6           .86     .068 No_date   12:28   61.73 .640     .000
02259>       [CN= 85.0: N= 3.00: Tp=  .56]
02260> *******************************************************************************************************
02261> # EXT7
02262> *******************************************************************************************************
02263> R0150:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02264>     CALIB NASHYD        1.0 01:EXT7           .47     .052 No_date   12:12   58.64 .608     .000
02265>       [CN= 83.0: N= 3.00: Tp=  .32]
02266> *******************************************************************************************************
02267> # EXT8
02268> *******************************************************************************************************
02269> R0150:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02270>     CALIB NASHYD        1.0 01:EXT8           .83     .068 No_date   12:19   52.94 .548     .000
02271>       [CN= 79.0: N= 3.00: Tp=  .42]
02272> *******************************************************************************************************
02273> # EXT9
02274> *******************************************************************************************************
02275> R0150:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02276>     CALIB NASHYD        1.0 01:EXT9          3.57     .242 No_date   12:23   49.04 .508     .000
02277>       [CN= 76.0: N= 3.00: Tp=  .48]
02278> *******************************************************************************************************
02279> # EXT9a
02280> *******************************************************************************************************
02281> R0150:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02282>     CALIB NASHYD        1.0 01:EXT9a          .01     .002 No_date   12:00   51.60 .535     .000
02283>       [CN= 78.0: N= 3.00: Tp=  .04]
02284> *******************************************************************************************************
02285> # EXT10
02286> *******************************************************************************************************
02287> R0150:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02288>     CALIB NASHYD        1.0 01:EXT10          .20     .013 No_date   12:19   43.13 .447     .000
02289>       [CN= 71.0: N= 3.00: Tp=  .42]
02290> *******************************************************************************************************
02291> # Pre2
02292> *******************************************************************************************************
02293> R0150:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02294>     CALIB NASHYD        1.0 01:Pre2           .57     .042 No_date   12:22   51.61 .535     .000
02295>       [CN= 78.0: N= 3.00: Tp=  .46]
02296> *******************************************************************************************************
02297> # Pre9
02298> *******************************************************************************************************
02299> R0150:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02300>     CALIB NASHYD        1.0 01:Pre9           .83     .040 No_date   12:35   43.14 .447     .000
02301>       [CN= 71.0: N= 3.00: Tp=  .64]
02302> *******************************************************************************************************
02303> # Pre10
02304> *******************************************************************************************************
02305> R0150:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02306>     CALIB NASHYD        1.0 01:Pre10          .80     .068 No_date   12:11   43.14 .447     .000
02307>       [CN= 71.0: N= 3.00: Tp=  .29]
02308> *******************************************************************************************************
02309> # Pre11
02310> *******************************************************************************************************
02311> R0150:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02312>     CALIB NASHYD        1.0 01:Pre11          .07     .009 No_date   12:06   51.60 .535     .000
02313>       [CN= 78.0: N= 3.00: Tp=  .21]
02314> *******************************************************************************************************
02315> R0150:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02316>     ADD HYD             1.0 02:EXT2           .28     .033 No_date   12:13   61.73  n/a     .000
02317>                    +    1.0 02:Pre2           .57     .042 No_date   12:22   51.61  n/a     .000
02318>                  SUM=    1.0 01:J1            .85     .073 No_date   12:17   55.00  n/a     .000
02319> R0150:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02320>     ROUTE CHANNEL   ->    1.0 02:J1            .85     .073 No_date   12:17   55.00  n/a     .000
02321>      [RDT= 1.00] out<-    1.0 01:R1            .85     .070 No_date   12:23   55.00  n/a     .000
02322>       [L/S/n=  143./ .394/.035]
02323>       {Vmax=  .384:Dmax=  .169}
02324> R0150:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02325>     ADD HYD             1.0 02:R1             .85     .070 No_date   12:23   55.00  n/a     .000
02326>                    +    1.0 02:EXT3           .56     .057 No_date   12:13   54.31  n/a     .000
02327>                    +    1.0 02:EXT1          3.21     .182 No_date   12:40   54.31  n/a     .000
02328>                  SUM=    1.0 01:J2            4.62     .284 No_date   12:28   54.44  n/a     .000
02329> R0150:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02330>     ROUTE CHANNEL   ->    1.0 02:J2            4.62     .284 No_date   12:28   54.44  n/a     .000
02331>      [RDT= 1.00] out<-    1.0 01:R2            4.62     .283 No_date   12:30   54.44  n/a     .000
02332>       [L/S/n=   73./ .425/.035]
02333>       {Vmax=  .540:Dmax=  .295}
02334> R0150:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02335>     ADD HYD             1.0 02:R2            4.62     .283 No_date   12:30   54.44  n/a     .000
02336>                    +    1.0 02:EXT4           .31     .033 No_date   12:11   52.94  n/a     .000
02337>                  SUM=    1.0 01:J3            4.93     .305 No_date   12:27   54.34  n/a     .000
02338> R0150:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02339>     ROUTE CHANNEL   ->    1.0 02:J3            4.93     .305 No_date   12:27   54.34  n/a     .000
02340>      [RDT= 1.00] out<-    1.0 01:R3            4.93     .302 No_date   12:30   54.34  n/a     .000
02341>       [L/S/n=   92./ .274/.035]
02342>       {Vmax=  .442:Dmax=  .305}
02343> R0150:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02344>     ADD HYD             1.0 02:R3            4.93     .302 No_date   12:30   54.34  n/a     .000
02345>                    +    1.0 02:EXT5           .59     .042 No_date   12:21   49.04  n/a     .000
02346>                  SUM=    1.0 01:J4            5.52     .343 No_date   12:28   53.77  n/a     .000
02347> R0150:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02348>     ROUTE CHANNEL   ->    1.0 02:J4            5.52     .343 No_date   12:28   53.77  n/a     .000
02349>      [RDT= 1.00] out<-    1.0 01:R4            5.52     .324 No_date   12:38   53.77  n/a     .000
02350>       [L/S/n=  251./ .190/.035]
02351>       {Vmax=  .438:Dmax=  .348}
02352> R0150:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02353>     ADD HYD             1.0 02:R4            5.52     .324 No_date   12:38   53.77  n/a     .000
02354>                    +    1.0 02:EXT6           .86     .068 No_date   12:28   61.73  n/a     .000
02355>                    +    1.0 02:EXT7           .47     .052 No_date   12:12   58.64  n/a     .000
02356>                  SUM=    1.0 01:J5            6.86     .421 No_date   12:34   55.11  n/a     .000
02357> R0150:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02358>     ROUTE CHANNEL   ->    1.0 02:J5            6.86     .421 No_date   12:34   55.11  n/a     .000
02359>      [RDT= 1.00] out<-    1.0 01:R5            6.86     .416 No_date   12:39   55.11  n/a     .000
02360>       [L/S/n=  237./ .644/.035]
02361>       {Vmax=  .714:Dmax=  .320}
02362> R0150:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02363>     ROUTE CHANNEL   ->    1.0 02:Pre10           .80     .068 No_date   12:11   43.14  n/a     .000
02364>      [RDT= 1.00] out<-    1.0 01:R6            .80     .066 No_date   12:14   43.14  n/a     .000
02365>       [L/S/n=   77./ .776/.035]
02366>       {Vmax=  .492:Dmax=  .049}
02367> R0150:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02368>     ROUTE CHANNEL   ->    1.0 02:Pre9           .83     .040 No_date   12:35   43.14  n/a     .000
02369>      [RDT= 1.00] out<-    1.0 01:R7            .83     .040 No_date   12:39   43.13  n/a     .000
02370>       [L/S/n=  159./1.576/.035]
02371>       {Vmax=  .797:Dmax=  .012}
02372> R0150:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02373>     ADD HYD             1.0 02:R6             .80     .066 No_date   12:14   43.21  n/a     .000
02374>                    +    1.0 02:EXT10          .20     .013 No_date   12:19   43.13  n/a     .000
02375>                  SUM=    1.0 01:J6            1.01     .079 No_date   12:15   43.19  n/a     .000
02376> R0150:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02377>     ROUTE CHANNEL   ->    1.0 02:J6            1.01     .079 No_date   12:15   43.19  n/a     .000
02378>      [RDT= 1.00] out<-    1.0 01:R8            1.01     .077 No_date   12:18   43.19  n/a     .000
02379>       [L/S/n=   79./ .522/.035]
02380>       {Vmax=  .423:Dmax=  .058}
02381> R0150:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02382>     ADD HYD             1.0 02:R8            1.01     .077 No_date   12:18   43.19  n/a     .000
02383>                    +    1.0 02:R7             .83     .040 No_date   12:39   43.15  n/a     .000
02384>                  SUM=    1.0 01:J7            1.83     .110 No_date   12:21   43.17  n/a     .000
02385> R0150:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02386>     ROUTE CHANNEL   ->    1.0 02:J7            1.83     .110 No_date   12:21   43.17  n/a     .000
02387>      [RDT= 1.00] out<-    1.0 01:R9            1.83     .110 No_date   12:22   43.17  n/a     .000
02388>       [L/S/n=   29./ .887/.035]
02389>       {Vmax=  .543:Dmax=  .074}
02390> R0150:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02391>     ADD HYD             1.0 02:EXT9          3.57     .242 No_date   12:23   49.04  n/a     .000
02392>                    +    1.0 02:R9            1.83     .110 No_date   12:22   43.18  n/a     .000
02393>                    +    1.0 02:EXT8           .83     .068 No_date   12:19   52.94  n/a     .000
02394>                    +    1.0 02:R5            6.86     .416 No_date   12:39   55.11  n/a     .000
02395>                  SUM=    1.0 01:J8           13.10     .800 No_date   12:30   51.64  n/a     .000
02396> R0150:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02397>     ROUTE PIPE      ->    1.0 02:J8           13.10     .800 No_date   12:30   51.64  n/a     .000
02398> *   [RDT= 1.00] out<-    1.0 01:Outlet        13.10     .799 No_date   12:32   51.64  n/a     .000
02399>       [L/S/n=    8./ .010/.013]
02400>       {Vmax=  .470:Dmax= 1.290}
02401>       [Din=  .53:Dused= 1.57)
02402> ###############################################################################
02403> # STORMS
02404> ###############################################################################
02405>  ** END OF RUN :  198
02406>
02407> *******************************************************************************************************
02408>
02409>
02410>
02411>
02412>
02413>  RUN#:COMMAND#
02414> R0199:C00001------------------------------------------------------------------------------------------
02415>     START
02416>      [TZERO =    .00 hrs on        0]
02417>      [METOUT=   2   (1=imperial, 2=metric output)]
02418>      [NSTORM=   1 ]
02419>      [NRUN  = 0199 ]
02420> *******************************************************************************************************
02421> #  SWMHYMO  / INPUT DATA FILE
02422> *******************************************************************************************************
02423> #  Project Name  : [5923 Ottawa St]
02424> #  Project Number: [P2710(e01)]
02425> #  Date          : [2025 FEB 05]
02426> #  Modeller      : [MM]
02427> #  Company       : JFSA Canada Inc.
02428> #  License #     : 2549237
02429> *******************************************************************************************************
02430> # Model developed to simulate runoff from subcatchments under pre development conditions
02431> *******************************************************************************************************
02432> R0199:C00002------------------------------------------------------------------------------------------
02433>      READ STORM
02434>       Filename = STORM.001
02435>       Comment  = 100 years SCS Type 2 Storm 24 Hours step 10 min, City of Ottawa
02436>       [SDT=10.00:SDUR=  24.00:PTOT= 106.73]
02437> *******************************************************************************************************
02438> # EXT1
02439> *******************************************************************************************************
02440> R0199:C00003------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02441>     CALIB NASHYD        1.0 01:EXT1          3.21     .212 No_date   12:39   62.92 .589     .000
02442>       [CN= 80.0: N= 3.00: Tp=  .72]
02443> *******************************************************************************************************
02444> # EXT2
02445> *******************************************************************************************************
02446> R0199:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02447>     CALIB NASHYD        1.0 01:EXT2           .28     .037 No_date   12:13   70.91 .664     .000
02448>       [CN= 85.0: N= 3.00: Tp=  .33]
02449> *******************************************************************************************************
02450> # EXT3
02451> *******************************************************************************************************
02452> R0199:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02453>     CALIB NASHYD        1.0 01:EXT3           .56     .066 No_date   12:13   62.92 .589     .000
02454>       [CN= 80.0: N= 3.00: Tp=  .32]
02455> *******************************************************************************************************
02456> # EXT4
02457> *******************************************************************************************************
02458> R0199:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02459>     CALIB NASHYD        1.0 01:EXT4           .31     .038 No_date   12:11   61.42 .576     .000
02460>       [CN= 79.0: N= 3.00: Tp=  .29]
02461> *******************************************************************************************************
02462> # EXT5
02463> *******************************************************************************************************
02464> R0199:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02465>     CALIB NASHYD        1.0 01:EXT5           .59     .049 No_date   12:21   57.15 .535     .000
02466>       [CN= 76.0: N= 3.00: Tp=  .45]
02467> *******************************************************************************************************
02468> # EXT6
02469> *******************************************************************************************************
02470> R0199:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02471>     CALIB NASHYD        1.0 01:EXT6           .86     .078 No_date   12:28   70.92 .664     .000
02472>       [CN= 85.0: N= 3.00: Tp=  .56]
02473> *******************************************************************************************************
02474> # EXT7
02475> *******************************************************************************************************
02476> R0199:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02477>     CALIB NASHYD        1.0 01:EXT7           .47     .060 No_date   12:12   67.60 .633     .000
02478>       [CN= 83.0: N= 3.00: Tp=  .32]
02479> *******************************************************************************************************
02480> # EXT8
02481> *******************************************************************************************************
02482> R0199:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02483>     CALIB NASHYD        1.0 01:EXT8           .83     .079 No_date   12:19   61.42 .576     .000
02484>       [CN= 79.0: N= 3.00: Tp=  .42]
02485> *******************************************************************************************************
02486> # EXT9
02487> *******************************************************************************************************
02488> R0199:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02489>     CALIB NASHYD        1.0 01:EXT9          3.57     .284 No_date   12:23   57.15 .535     .000
02490>       [CN= 76.0: N= 3.00: Tp=  .48]
02491> *******************************************************************************************************
02492> # EXT9a
02493> *******************************************************************************************************
02494> R0199:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02495>     CALIB NASHYD        1.0 01:EXT9a          .01     .003 No_date   12:00   59.96 .562     .000
02496>       [CN= 78.0: N= 3.00: Tp=  .04]
02497> *******************************************************************************************************
02498> # EXT10
02499> *******************************************************************************************************
02500> R0199:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02501>     CALIB NASHYD        1.0 01:EXT10          .20     .016 No_date   12:19   50.61 .474     .000
02502>       [CN= 71.0: N= 3.00: Tp=  .42]
02503> *******************************************************************************************************
02504> # Pre2
02505> *******************************************************************************************************
02506> R0199:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02507>     CALIB NASHYD        1.0 01:Pre2           .57     .049 No_date   12:22   59.97 .562     .000
02508>       [CN= 78.0: N= 3.00: Tp=  .46]
02509> *******************************************************************************************************
02510> # Pre9
02511> *******************************************************************************************************
02512> R0199:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02513>     CALIB NASHYD        1.0 01:Pre9           .83     .047 No_date   12:35   50.61 .474     .000
02514>       [CN= 71.0: N= 3.00: Tp=  .64]
02515> *******************************************************************************************************
02516> # Pre10
02517> *******************************************************************************************************
02518> R0199:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02519>     CALIB NASHYD        1.0 01:Pre10          .80     .080 No_date   12:11   50.61 .474     .000
02520>       [CN= 71.0: N= 3.00: Tp=  .29]
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02521> #*******************************************************************************
02522> # Pre11
02523> #*******************************************************************************
02524> R0199:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02525>      CALIB NASHYD           1.0 01:Pre11          .07     .010 No_date   12:06   59.96 .562    .000
02526>        [CN= 78.0: N= 3.00: Tp=  .21]
02527> #*******************************************************************************
02528> R0199:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02529>      ADD HYD                1.0 02:EXT2           .28     .037 No_date   12:13   70.91  n/a    .000
02530>                         +    1.0 02:Pre2           .57     .049 No_date   12:22   59.97  n/a    .000
02531>                       SUM=   1.0 01:J1            .85     .084 No_date   12:17   63.63  n/a    .000
02532> R0199:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02533>      ROUTE CHANNEL    ->    1.0 02:J1            .85     .084 No_date   12:17   63.63  n/a    .000
02534>        [RD*= 1.00] out<-    1.0 01:R1            .85     .081 No_date   12:22   63.63  n/a    .000
02535>        [L/S/n=  143./ .394/.035]
02536>        [Vmax=  .404:Dmax=  .181]
02537> R0199:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02538>      ADD HYD                1.0 02:R1            .85     .081 No_date   12:22   63.63  n/a    .000
02539>                         +    1.0 02:EXT3           .56     .066 No_date   12:13   62.92  n/a    .000
02540>                         +    1.0 02:EXT1          3.21     .212 No_date   12:39   62.92  n/a    .000
02541>                       SUM=   1.0 01:J2            4.62     .329 No_date   12:27   63.05  n/a    .000
02542> R0199:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02543>      ROUTE CHANNEL    ->    1.0 02:J2            4.62     .329 No_date   12:27   63.05  n/a    .000
02544>        [RD*= 1.00] out<-    1.0 01:R2            4.62     .329 No_date   12:29   63.05  n/a    .000
02545>        [L/S/n=  73./ .425/.035]
02546>        [Vmax=  .561:Dmax=  .313]
02547> R0199:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02548>      ADD HYD                1.0 02:R2            4.62     .329 No_date   12:29   63.05  n/a    .000
02549>                         +    1.0 02:EXT4           .31     .038 No_date   12:11   61.42  n/a    .000
02550>                       SUM=   1.0 01:J3            4.93     .354 No_date   12:27   62.95  n/a    .000
02551> R0199:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02552>      ROUTE CHANNEL    ->    1.0 02:J3            4.93     .354 No_date   12:27   62.95  n/a    .000
02553>        [RD*= 1.00] out<-    1.0 01:R3            4.93     .352 No_date   12:30   62.95  n/a    .000
02554>        [L/S/n=  92./ .274/.035]
02555>        [Vmax=  .459:Dmax=  .323]
02556> R0199:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02557>      ADD HYD                1.0 02:R3            4.93     .352 No_date   12:30   62.95  n/a    .000
02558>                         +    1.0 02:EXT5           .59     .049 No_date   12:21   57.15  n/a    .000
02559>                       SUM=   1.0 01:J4            5.52     .399 No_date   12:28   62.32  n/a    .000
02560> R0199:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02561>      ROUTE CHANNEL    ->    1.0 02:J4            5.52     .399 No_date   12:28   62.32  n/a    .000
02562>        [RD*= 1.00] out<-    1.0 01:R4            5.52     .379 No_date   12:37   62.32  n/a    .000
02563>        [L/S/n=  251./ .190/.035]
02564>        [Vmax=  .456:Dmax=  .372]
02565> R0199:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02566>      ADD HYD                1.0 02:R4            5.52     .379 No_date   12:37   62.32  n/a    .000
02567>                         +    1.0 02:EXT6           .86     .078 No_date   12:28   70.92  n/a    .000
02568>                         +    1.0 02:EXT7           .47     .060 No_date   12:12   67.60  n/a    .000
02569>                       SUM=   1.0 01:J5            6.86     .491 No_date   12:33   63.77  n/a    .000
02570> R0199:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02571>      ROUTE CHANNEL    ->    1.0 02:J5            6.86     .491 No_date   12:33   63.77  n/a    .000
02572>        [RD*= 1.00] out<-    1.0 01:R5            6.86     .485 No_date   12:38   63.77  n/a    .000
02573>        [L/S/n=  237./ .644/.035]
02574>        [Vmax=  .744:Dmax=  .340]
02575> R0199:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02576>      ROUTE CHANNEL    ->    1.0 02:Pre10          .80     .080 No_date   12:11   50.61  n/a    .000
02577>        [RD*= 1.00] out<-    1.0 01:R6            .80     .078 No_date   12:14   50.61  n/a    .000
02578>        [L/S/n=  77./ .776/.035]
02579>        [Vmax=  .492:Dmax=  .058]
02580> R0199:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02581>      ROUTE CHANNEL    ->    1.0 02:Pre9           .83     .047 No_date   12:35   50.61  n/a    .000
02582>        [RD*= 1.00] out<-    1.0 01:R7            .83     .047 No_date   12:38   50.61  n/a    .000
02583>        [L/S/n=  159./1.576/.035]
02584>        [Vmax=  .797:Dmax=  .014]
02585> R0199:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02586>      ADD HYD                1.0 02:R6            .80     .078 No_date   12:14   50.69  n/a    .000
02587>                         +    1.0 02:EXT10          .20     .016 No_date   12:19   50.61  n/a    .000
02588>                       SUM=   1.0 01:J6            1.01     .093 No_date   12:14   50.67  n/a    .000
02589> R0199:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02590>      ROUTE CHANNEL    ->    1.0 02:J6            1.01     .093 No_date   12:14   50.67  n/a    .000
02591>        [RD*= 1.00] out<-    1.0 01:R8            1.01     .091 No_date   12:18   50.67  n/a    .000
02592>        [L/S/n=  79./ .522/.035]
02593>        [Vmax=  .423:Dmax=  .068]
02594> R0199:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02595>      ADD HYD                1.0 02:R8            1.01     .091 No_date   12:18   50.68  n/a    .000
02596>                         +    1.0 02:R7            .83     .047 No_date   12:38   50.63  n/a    .000
02597>                       SUM=   1.0 01:J7            1.83     .129 No_date   12:21   50.65  n/a    .000
02598> R0199:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02599>      ROUTE CHANNEL    ->    1.0 02:J7            1.83     .129 No_date   12:21   50.65  n/a    .000
02600>        [RD*= 1.00] out<-    1.0 01:R9            1.83     .129 No_date   12:22   50.65  n/a    .000
02601>        [L/S/n=  29./ .887/.035]
02602>        [Vmax=  .543:Dmax=  .088]
02603> R0199:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02604>      ADD HYD                1.0 02:EXT9          3.57     .284 No_date   12:23   57.15  n/a    .000
02605>                         +    1.0 02:R9            1.83     .129 No_date   12:22   50.66  n/a    .000
02606>                         +    1.0 02:EXT8           .83     .079 No_date   12:19   61.43  n/a    .000
02607>                         +    1.0 02:R5            6.86     .485 No_date   12:38   63.77  n/a    .000
02608>                       SUM=   1.0 01:J8           13.10     .939 No_date   12:30   59.98  n/a    .000
02609> R0199:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02610>      ROUTE PIPE       ->    1.0 02:J8           13.10     .939 No_date   12:30   59.98  n/a    .000
02611> *    [RD*= 1.00] out<-    1.0 01:Outlet        13.10     .937 No_date   12:31   59.98  n/a    .000
02612>        [L/S/n=   8./ .010/.013]
02613>        [Vmax=  .489:Dmax= 1.369]
02614>        [Din=  .53:Dused= 1.67)
02615> ###############################################################################
02616> # STORMS
02617> ###############################################################################
02618>   ** END OF RUN : 1978
02619>
02620> *******************************************************************************
02621>
02622>
02623>
02624>
02625>
02626>  RUN#:COMMAND#
02627> R1979:C00001------------------------------------------------------------------------
02628>      START
02629>        [TZERO =    .00 hrs on        0]
02630>        [METOUT=  2    (1=imperial, 2=metric output)]
02631>        [NSTORM=  1 ]
02632>        [NRUN  = 1979 ]
02633> #*******************************************************************************
02634> #  SWMHYMO  / INPUT DATA FILE
02635> #*******************************************************************************
02636> #  Project Name  : [5923 Ottawa St]
02637> #  Project Number: [P2710(e01)]
02638> #  Date          : [2025 FEB 05]
02639> #  Modeller      : [MM]
02640> #  Company       : JFSA Canada Inc.
02641> #  License #     : 2549237
02642> #*******************************************************************************
02643> # Model developed to simulate runoff from subcatchments under pre development conditions
02644> #*******************************************************************************
02645> R1979:C00002------------------------------------------------------------------------
02646>      READ STORM
02647>        Filename = STORM.001
02648>        Comment  = July 1st, 1979 Storm (3H) - Ottawa International Airport step 5 min
02649>        [SDT= 5.00:SDUR=   3.00:PTOT=  83.99]
02650> #*******************************************************************************
02651> # EXT1
02652> #*******************************************************************************
02653> R1979:C00003------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02654>      CALIB NASHYD           1.0 01:EXT1          3.21     .240 No_date   2:16   44.05 .524    .000
02655>        [CN= 80.0: N= 3.00: Tp=  .72]
02656> #*******************************************************************************
02657> # EXT2
02658> #*******************************************************************************
02659> R1979:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02660>      CALIB NASHYD           1.0 01:EXT2           .28     .039 No_date   1:50   50.68 .603    .000
02661>        [CN= 85.0: N= 3.00: Tp=  .33]
02662> #*******************************************************************************
02663> # EXT3
02664> #*******************************************************************************
02665> R1979:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02666>      CALIB NASHYD           1.0 01:EXT3           .56     .067 No_date   1:50   44.05 .524    .000
02667>        [CN= 80.0: N= 3.00: Tp=  .32]
02668> #*******************************************************************************
02669> # EXT4
02670> #*******************************************************************************
02671> R1979:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02672>      CALIB NASHYD           1.0 01:EXT4           .31     .038 No_date   1:48   42.84 .510    .000
02673>        [CN= 79.0: N= 3.00: Tp=  .29]
02674> #*******************************************************************************
02675> # EXT5
02676> #*******************************************************************************
02677> R1979:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02678>      CALIB NASHYD           1.0 01:EXT5           .59     .054 No_date   2:01   39.44 .470    .000
02679>        [CN= 76.0: N= 3.00: Tp=  .45]
02680> #*******************************************************************************
02681> # EXT6
02682> #*******************************************************************************
02683> R1979:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02684>      CALIB NASHYD           1.0 01:EXT6           .86     .088 No_date   2:06   50.68 .603    .000
02685>        [CN= 85.0: N= 3.00: Tp=  .56]
02686> #*******************************************************************************
02687> # EXT7
02688> #*******************************************************************************
02689> R1979:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02690>      CALIB NASHYD           1.0 01:EXT7           .47     .061 No_date   1:49   47.90 .570    .000
02691>        [CN= 83.0: N= 3.00: Tp=  .32]
02692> #*******************************************************************************
02693> # EXT8
02694> #*******************************************************************************
02695> R1979:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02696>      CALIB NASHYD           1.0 01:EXT8           .83     .085 No_date   1:58   42.85 .510    .000
02697>        [CN= 79.0: N= 3.00: Tp=  .42]
02698> #*******************************************************************************
02699> # EXT9
02700> #*******************************************************************************
02701> R1979:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02702>      CALIB NASHYD           1.0 01:EXT9          3.57     .311 No_date   2:03   39.44 .470    .000
02703>        [CN= 76.0: N= 3.00: Tp=  .48]
02704> #*******************************************************************************
02705> # EXT9a
02706> #*******************************************************************************
02707> R1979:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02708>      CALIB NASHYD           1.0 01:EXT9a          .01     .002 No_date   1:30   41.67 .496    .000
02709>        [CN= 78.0: N= 3.00: Tp=  .04]
02710> #*******************************************************************************
02711> # EXT10
02712> #*******************************************************************************
02713> R1979:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02714>      CALIB NASHYD           1.0 01:EXT10          .20     .017 No_date   1:59   34.36 .409    .000
02715>        [CN= 71.0: N= 3.00: Tp=  .42]
02716> #*******************************************************************************
02717> # Pre2
02718> #*******************************************************************************
02719> R1979:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02720>      CALIB NASHYD           1.0 01:Pre2           .57     .053 No_date   2:01   41.68 .496    .000
02721>        [CN= 78.0: N= 3.00: Tp=  .46]
02722> #*******************************************************************************
02723> # Pre9
02724> #*******************************************************************************
02725> R1979:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02726>      CALIB NASHYD           1.0 01:Pre9           .83     .053 No_date   2:12   34.37 .409    .000
02727>        [CN= 71.0: N= 3.00: Tp=  .64]
02728> #*******************************************************************************
02729> # Pre10
02730> #*******************************************************************************
02731> R1979:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02732>      CALIB NASHYD           1.0 01:Pre10          .80     .079 No_date   1:48   34.37 .409    .000
02733>        [CN= 71.0: N= 3.00: Tp=  .29]
02734> #*******************************************************************************
02735> # Pre11
02736> #*******************************************************************************
02737> R1979:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02738>      CALIB NASHYD           1.0 01:Pre11          .07     .009 No_date   1:43   41.67 .496    .000
02739>        [CN= 78.0: N= 3.00: Tp=  .21]
02740> #*******************************************************************************
02741> R1979:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02742>      ADD HYD                1.0 02:EXT2           .28     .039 No_date   1:50   50.68  n/a    .000
02743>                         +    1.0 02:Pre2           .57     .053 No_date   2:01   41.68  n/a    .000
02744>                       SUM=   1.0 01:J1            .85     .090 No_date   1:55   44.69  n/a    .000
02745> R1979:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02746>      ROUTE CHANNEL    ->    1.0 02:J1            .85     .090 No_date   1:55   44.69  n/a    .000
02747>        [RD*= 1.00] out<-    1.0 01:R1            .85     .088 No_date   2:01   44.69  n/a    .000
02748>        [L/S/n=  143./ .394/.035]
02749>        [Vmax=  .411:Dmax=  .186]
02750> R1979:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02751>      ADD HYD                1.0 02:R1            .85     .088 No_date   2:01   44.69  n/a    .000
02752>                         +    1.0 02:EXT3           .56     .067 No_date   1:50   44.05  n/a    .000
02753>                         +    1.0 02:EXT1          3.21     .240 No_date   2:16   44.05  n/a    .000
02754>                       SUM=   1.0 01:J2            4.62     .372 No_date   2:06   44.17  n/a    .000
02755> R1979:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02756>      ROUTE CHANNEL    ->    1.0 02:J2            4.62     .372 No_date   2:06   44.17  n/a    .000
02757>        [RD*= 1.00] out<-    1.0 01:R2            4.62     .371 No_date   2:08   44.17  n/a    .000
02758>        [L/S/n=  73./ .425/.035]
02759>        [Vmax=  .579:Dmax=  .329]
02760> R1979:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02761>      ADD HYD                1.0 02:R2            4.62     .371 No_date   2:08   44.17  n/a    .000
02762>                         +    1.0 02:EXT4           .31     .038 No_date   1:48   42.84  n/a    .000
02763>                       SUM=   1.0 01:J3            4.93     .399 No_date   2:06   44.09  n/a    .000
02764> R1979:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02765>      ROUTE CHANNEL    ->    1.0 02:J3            4.93     .399 No_date   2:06   44.09  n/a    .000
02766>        [RD*= 1.00] out<-    1.0 01:R3            4.93     .396 No_date   2:08   44.09  n/a    .000
02767>        [L/S/n=  92./ .274/.035]
02768>        [Vmax=  .474:Dmax=  .339]
02769> R1979:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02770>      ADD HYD                1.0 02:R3            4.93     .396 No_date   2:08   44.09  n/a    .000
02771>                         +    1.0 02:EXT5           .59     .054 No_date   2:01   39.44  n/a    .000
02772>                       SUM=   1.0 01:J4            5.52     .448 No_date   2:07   43.59  n/a    .000
02773> R1979:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02774>      ROUTE CHANNEL    ->    1.0 02:J4            5.52     .448 No_date   2:07   43.59  n/a    .000
02775>        [RD*= 1.00] out<-    1.0 01:R4            5.52     .429 No_date   2:14   43.59  n/a    .000
02776>        [L/S/n=  251./ .190/.035]
02777>        [Vmax=  .471:Dmax=  .391]
02778> R1979:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02779>      ADD HYD                1.0 02:R4            5.52     .429 No_date   2:14   43.59  n/a    .000
02780>                         +    1.0 02:EXT6           .86     .088 No_date   2:06   50.68  n/a    .000
02781>                         +    1.0 02:EXT7           .47     .061 No_date   1:49   47.90  n/a    .000
02782>                       SUM=   1.0 01:J5            6.86     .557 No_date   2:10   44.78  n/a    .000
02783> R1979:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02784>      ROUTE CHANNEL    ->    1.0 02:J5            6.86     .557 No_date   2:10   44.78  n/a    .000
02785>        [RD*= 1.00] out<-    1.0 01:R5            6.86     .551 No_date   2:14   44.78  n/a    .000
02786>        [L/S/n=  237./ .644/.035]
02787>        [Vmax=  .775:Dmax=  .358]
02788> R1979:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02789>      ROUTE CHANNEL    ->    1.0 02:Pre10          .80     .079 No_date   1:48   34.37  n/a    .000
02790>        [RD*= 1.00] out<-    1.0 01:R6            .80     .078 No_date   1:51   34.37  n/a    .000
02791>        [L/S/n=  77./ .776/.035]
02792>        [Vmax=  .492:Dmax=  .058]
02793> R1979:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02794>      ROUTE CHANNEL    ->    1.0 02:Pre9           .83     .053 No_date   2:12   34.37  n/a    .000
02795>        [RD*= 1.00] out<-    1.0 01:R7            .83     .052 No_date   2:16   34.37  n/a    .000
02796>        [L/S/n=  159./1.576/.035]
02797>        [Vmax=  .797:Dmax=  .016]
02798> R1979:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02799>      ADD HYD                1.0 02:R6            .80     .078 No_date   1:51   34.68  n/a    .000
02800>                         +    1.0 02:EXT10          .20     .017 No_date   1:59   34.36  n/a    .000
02801>                       SUM=   1.0 01:J6            1.01     .094 No_date   1:52   34.62  n/a    .000
02802> R1979:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02803>      ROUTE CHANNEL    ->    1.0 02:J6            1.01     .094 No_date   1:52   34.62  n/a    .000
02804>        [RD*= 1.00] out<-    1.0 01:R8            1.01     .093 No_date   1:56   34.62  n/a    .000
02805>        [L/S/n=  79./ .522/.035]
02806>        [Vmax=  .423:Dmax=  .069]
02807> R1979:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02808>      ADD HYD                1.0 02:R8            1.01     .093 No_date   1:56   34.62  n/a    .000
02809>                         +    1.0 02:R7            .83     .052 No_date   2:16   34.40  n/a    .000
02810>                       SUM=   1.0 01:J7            1.83     .137 No_date   2:01   34.52  n/a    .000
02811> R1979:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02812>      ROUTE CHANNEL    ->    1.0 02:J7            1.83     .137 No_date   2:01   34.52  n/a    .000
02813>        [RD*= 1.00] out<-    1.0 01:R9            1.83     .137 No_date   2:02   34.52  n/a    .000
02814>        [L/S/n=  29./ .887/.035]
02815>        [Vmax=  .543:Dmax=  .093]
02816> R1979:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02817>      ADD HYD                1.0 02:EXT9          3.57     .311 No_date   2:03   39.44  n/a    .000
02818>                         +    1.0 02:R9            1.83     .137 No_date   2:02   34.54  n/a    .000
02819>                         +    1.0 02:EXT8           .83     .085 No_date   1:58   42.85  n/a    .000
02820>                         +    1.0 02:R5            6.86     .551 No_date   2:14   44.78  n/a    .000
02821>                       SUM=   1.0 01:J8           13.10    1.057 No_date   2:08   41.76  n/a    .000
02822> R1979:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02823>      ROUTE PIPE       ->    1.0 02:J8           13.10    1.057 No_date   2:08   41.76  n/a    .000
02824> *    [RD*= 1.00] out<-    1.0 01:Outlet        13.10    1.057 No_date   2:09   41.76  n/a    .000
02825>        [L/S/n=   8./ .010/.013]
02826>        [Vmax=  .504:Dmax= 1.432]
02827>        [Din=  .53:Dused= 1.74)
02828> ###############################################################################
02829> # STORMS
02830> ###############################################################################
02831>   ** END OF RUN : 1987
02832>
02833> *******************************************************************************
02834>
02835>
02836>
02837>
02838>
02839>  RUN#:COMMAND#
02840> R1988:C00001------------------------------------------------------------------------
02841>      START
02842>        [TZERO =    .00 hrs on        0]
02843>        [METOUT=  2    (1=imperial, 2=metric output)]
02844>        [NSTORM=  1 ]
02845>        [NRUN  = 1988 ]
02846> #*******************************************************************************
02847> #  SWMHYMO  / INPUT DATA FILE
02848> #*******************************************************************************
02849> #  Project Name  : [5923 Ottawa St]
02850> #  Project Number: [P2710(e01)]
02851> #  Date          : [2025 FEB 05]
02852> #  Modeller      : [MM]
02853> #  Company       : JFSA Canada Inc.
02854> #  License #     : 2549237
02855> #*******************************************************************************
02856> # Model developed to simulate runoff from subcatchments under pre development conditions
02857> #*******************************************************************************
02858> R1988:C00002------------------------------------------------------------------------
02859>      READ STORM
02860>        Filename = STORM.001
02861>        Comment  = August 4th, 1988 Storm (5H+) - Ottawa International Airport step 5
02862>        [SDT= 5.00:SDUR=   5.58:PTOT=  80.59]
02863> #*******************************************************************************
02864> # EXT1
02865> #*******************************************************************************
02866> R1988:C00003------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02867>      CALIB NASHYD           1.0 01:EXT1          3.21     .197 No_date   2:30   41.34 .513    .000
02868>        [CN= 80.0: N= 3.00: Tp=  .72]
02869> #*******************************************************************************
02870> # EXT2
02871> #*******************************************************************************
02872> R1988:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02873>      CALIB NASHYD           1.0 01:EXT2           .28     .035 No_date   2:11   47.74 .592    .000
02874>        [CN= 85.0: N= 3.00: Tp=  .33]
02875> #*******************************************************************************
02876> # EXT3
02877> #*******************************************************************************
02878> R1988:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02879>      CALIB NASHYD           1.0 01:EXT3           .56     .061 No_date   2:11   41.34 .513    .000
02880>        [CN= 80.0: N= 3.00: Tp=  .32]
```

```
02881> *****************************************************************************************
02882> # EXT4
02883> *****************************************************************************************
02884> R1988:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02885>      CALIB NASHYD            1.0 01:EXT4           .31     .035 No_date    2:10   40.18 .499     .000
02886>        [CN= 79.0: N= 3.00: Tp=  .29]
02887> *****************************************************************************************
02888> # EXT5
02889> *****************************************************************************************
02890> R1988:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02891>      CALIB NASHYD            1.0 01:EXT5           .59     .046 No_date    2:17   36.92 .458     .000
02892>        [CN= 76.0: N= 3.00: Tp=  .45]
02893> *****************************************************************************************
02894> # EXT6
02895> *****************************************************************************************
02896> R1988:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02897>      CALIB NASHYD            1.0 01:EXT6           .86     .074 No_date    2:21   47.74 .592     .000
02898>        [CN= 85.0: N= 3.00: Tp=  .56]
02899> *****************************************************************************************
02900> # EXT7
02901> *****************************************************************************************
02902> R1988:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02903>      CALIB NASHYD            1.0 01:EXT7           .47     .055 No_date    2:11   45.05 .559     .000
02904>        [CN= 83.0: N= 3.00: Tp=  .32]
02905> *****************************************************************************************
02906> # EXT8
02907> *****************************************************************************************
02908> R1988:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02909>      CALIB NASHYD            1.0 01:EXT8           .83     .074 No_date    2:15   40.18 .499     .000
02910>        [CN= 79.0: N= 3.00: Tp=  .42]
02911> *****************************************************************************************
02912> # EXT9
02913> *****************************************************************************************
02914> R1988:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02915>      CALIB NASHYD            1.0 01:EXT9           3.57     .266 No_date    2:18   36.92 .458     .000
02916>        [CN= 76.0: N= 3.00: Tp=  .48]
02917> *****************************************************************************************
02918> # EXT9a
02919> *****************************************************************************************
02920> R1988:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02921>      CALIB NASHYD            1.0 01:EXT9a           .01     .003 No_date    2:00   39.05 .485     .000
02922>        [CN= 78.0: N= 3.00: Tp=  .04]
02923> *****************************************************************************************
02924> # EXT10
02925> *****************************************************************************************
02926> R1988:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02927>      CALIB NASHYD            1.0 01:EXT10           .20     .014 No_date    2:16   32.08 .398     .000
02928>        [CN= 71.0: N= 3.00: Tp=  .42]
02929> *****************************************************************************************
02930> # Pre2
02931> *****************************************************************************************
02932> R1988:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02933>      CALIB NASHYD            1.0 01:Pre2            .57     .046 No_date    2:17   39.06 .485     .000
02934>        [CN= 78.0: N= 3.00: Tp=  .46]
02935> *****************************************************************************************
02936> # Pre9
02937> *****************************************************************************************
02938> R1988:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02939>      CALIB NASHYD            1.0 01:Pre9            .83     .043 No_date    2:27   32.08 .398     .000
02940>        [CN= 71.0: N= 3.00: Tp=  .64]
02941> *****************************************************************************************
02942> # Pre10
02943> *****************************************************************************************
02944> R1988:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02945>      CALIB NASHYD            1.0 01:Pre10           .80     .072 No_date    2:10   32.08 .398     .000
02946>        [CN= 71.0: N= 3.00: Tp=  .29]
02947> *****************************************************************************************
02948> # Pre11
02949> *****************************************************************************************
02950> R1988:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02951>      CALIB NASHYD            1.0 01:Pre11           .07     .009 No_date    2:06   39.06 .485     .000
02952>        [CN= 78.0: N= 3.00: Tp=  .21]
02953> *****************************************************************************************
02954> R1988:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02955>      ADD HYD                 1.0 02:EXT2            .28     .035 No_date    2:11   47.74  n/a     .000
02956>                          +   1.0 02:Pre2            .57     .046 No_date    2:17   39.06  n/a     .000
02957>                      SUM=    1.0 01:J1              .85     .079 No_date    2:14   41.97  n/a     .000
02958> R1988:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02959>      ROUTE CHANNEL    ->    1.0 02:J1              .85     .079 No_date    2:14   41.97  n/a     .000
02960>        [RDT= 1.00] out<-    1.0 01:R1              .85     .076 No_date    2:18   41.97  n/a     .000
02961>        [L/S/n=  143./ .394/.035]
02962>        [Vmax=  .396:Dmax=  .176]
02963> R1988:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02964>      ADD HYD                 1.0 02:R1              .85     .076 No_date    2:18   41.97  n/a     .000
02965>                          +   1.0 02:EXT3            .56     .061 No_date    2:11   41.34  n/a     .000
02966>                          +   1.0 02:EXT1           3.21     .197 No_date    2:30   41.34  n/a     .000
02967>                      SUM=    1.0 01:J2             4.62     .314 No_date    2:21   41.46  n/a     .000
02968> R1988:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02969>      ROUTE CHANNEL    ->    1.0 02:J2             4.62     .314 No_date    2:21   41.46  n/a     .000
02970>        [RDT= 1.00] out<-    1.0 01:R2             4.62     .313 No_date    2:22   41.46  n/a     .000
02971>        [L/S/n=   73./ .425/.035]
02972>        [Vmax=  .555:Dmax=  .308]
02973> R1988:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02974>      ADD HYD                 1.0 02:R2             4.62     .313 No_date    2:22   41.46  n/a     .000
02975>                          +   1.0 02:EXT4            .31     .035 No_date    2:10   40.18  n/a     .000
02976>                      SUM=    1.0 01:J3             4.93     .338 No_date    2:20   41.38  n/a     .000
02977> R1988:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02978>      ROUTE CHANNEL    ->    1.0 02:J3             4.93     .338 No_date    2:20   41.38  n/a     .000
02979>        [RDT= 1.00] out<-    1.0 01:R3             4.93     .335 No_date    2:23   41.38  n/a     .000
02980>        [L/S/n=   92./ .274/.035]
02981>        [Vmax=  .454:Dmax=  .318]
02982> R1988:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02983>      ADD HYD                 1.0 02:R3             4.93     .335 No_date    2:23   41.38  n/a     .000
02984>                          +   1.0 02:EXT5            .59     .046 No_date    2:17   36.92  n/a     .000
02985>                      SUM=    1.0 01:J4             5.52     .379 No_date    2:22   40.90  n/a     .000
02986> R1988:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02987>      ROUTE CHANNEL    ->    1.0 02:J4             5.52     .379 No_date    2:22   40.90  n/a     .000
02988>        [RDT= 1.00] out<-    1.0 01:R4             5.52     .355 No_date    2:30   40.90  n/a     .000
02989>        [L/S/n=  251./ .190/.035]
02990>        [Vmax=  .450:Dmax=  .363]
02991> R1988:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02992>      ADD HYD                 1.0 02:R4             5.52     .355 No_date    2:30   40.90  n/a     .000
02993>                          +   1.0 02:EXT6            .86     .074 No_date    2:21   47.74  n/a     .000
02994>                          +   1.0 02:EXT7            .47     .055 No_date    2:11   45.05  n/a     .000
02995>                      SUM=    1.0 01:J5             6.86     .462 No_date    2:26   42.04  n/a     .000
02996> R1988:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02997>      ROUTE CHANNEL    ->    1.0 02:J5             6.86     .462 No_date    2:26   42.04  n/a     .000
02998>        [RDT= 1.00] out<-    1.0 01:R5             6.86     .454 No_date    2:30   42.04  n/a     .000
02999>        [L/S/n=  237./ .644/.035]
03000>        [Vmax=  .731:Dmax=  .332]
03001> R1988:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03002>      ROUTE CHANNEL    ->    1.0 02:Pre10          .80     .072 No_date    2:10   32.08  n/a     .000
03003>        [RDT= 1.00] out<-    1.0 01:R6             .80     .071 No_date    2:12   32.08  n/a     .000
03004>        [L/S/n=   77./ .776/.035]
03005>        [Vmax=  .492:Dmax=  .053]
03006> R1988:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03007>      ROUTE CHANNEL    ->    1.0 02:Pre9           .83     .043 No_date    2:27   32.08  n/a     .000
03008>        [RDT= 1.00] out<-    1.0 01:R7             .83     .043 No_date    2:30   32.08  n/a     .000
03009>        [L/S/n=  159./1.576/.035]
03010>        [Vmax=  .797:Dmax=  .013]
03011> R1988:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03012>      ADD HYD                 1.0 02:R6             .80     .071 No_date    2:12   32.23  n/a     .000
03013>                          +   1.0 02:EXT10           .20     .014 No_date    2:16   32.08  n/a     .000
03014>                      SUM=    1.0 01:J6            1.01     .085 No_date    2:13   32.20  n/a     .000
03015> R1988:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03016>      ROUTE CHANNEL    ->    1.0 02:J6            1.01     .085 No_date    2:13   32.20  n/a     .000
03017>        [RDT= 1.00] out<-    1.0 01:R8            1.01     .083 No_date    2:16   32.20  n/a     .000
03018>        [L/S/n=   79./ .522/.035]
03019>        [Vmax=  .423:Dmax=  .062]
03020> R1988:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03021>      ADD HYD                 1.0 02:R8            1.01     .083 No_date    2:16   32.20  n/a     .000
03022>                          +   1.0 02:R7             .83     .043 No_date    2:30   32.10  n/a     .000
03023>                      SUM=    1.0 01:J7            1.83     .121 No_date    2:18   32.16  n/a     .000
03024> R1988:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03025>      ROUTE CHANNEL    ->    1.0 02:J7            1.83     .121 No_date    2:18   32.16  n/a     .000
03026>        [RDT= 1.00] out<-    1.0 01:R9            1.83     .120 No_date    2:19   32.16  n/a     .000
03027>        [L/S/n=   29./ .887/.035]
03028>        [Vmax=  .543:Dmax=  .082]
03029> R1988:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03030>      ADD HYD                 1.0 02:EXT9           3.57     .266 No_date    2:18   36.92  n/a     .000
03031>                          +   1.0 02:R9             1.83     .120 No_date    2:19   32.17  n/a     .000
03032>                          +   1.0 02:EXT8            .83     .074 No_date    2:15   40.18  n/a     .000
03033>                          +   1.0 02:R5              6.86     .454 No_date    2:30   42.04  n/a     .000
03034>                      SUM=    1.0 01:J8            13.10     .883 No_date    2:23   39.14  n/a     .000
03035> R1988:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03036>      ROUTE PIPE       ->    1.0 02:J8            13.10     .883 No_date    2:23   39.14  n/a     .000
03037> *    [RDT= 1.00] out<-    1.0 01:Outlet        13.10     .883 No_date    2:24   39.14  n/a     .000
03038>        [L/S/n=    8./ .010/.013]
03039>        [Vmax=  .482:Dmax= 1.338]
03040>        [Din=  .53:Dused= 1.63]
03041> ###############################################################################
03042> # STORMS
03043> ###############################################################################
03044>  ** END OF RUN : 1995
03045>
03046> *****************************************************************************************
03047>
03048>
03049>
03050>
03051>
03052>  RUN#:COMMAND#
03053> R1996:C00001-------------------------------------------------------------------------------
03054>      START
03055>        [TZERO =    .00 hrs on        0]
03056>        [METOUT=   2    (1=imperial, 2=metric output)]
03057>        [NSTORM=   1 ]
03058>        [NRUN  = 1996 ]
03059> *****************************************************************************************
03060> #  SWMHYMO  / INPUT DATA FILE

03061> *****************************************************************************************
03062> #  Project Name  : [5923 Ottawa St]
03063> #  Project Number: [P2710(e01)]
03064> #  Date          : [2025 FEB 05]
03065> #  Modeller      : [MM]
03066> #  Company       : JFSA Canada Inc.
03067> #  License #     : 2549237
03068> *****************************************************************************************
03069> # Model developed to simulate runoff from subcatchments under pre development conditions
03070> *****************************************************************************************
03071> R1996:C00002-------------------------------------------------------------------------------
03072>      READ STORM
03073>        Filename = STORM.001
03074>        Comment  = August 8th, 1996 Storm (5H+) - Ottawa International Airport step 5
03075>        [SDT= 5.00:SDUR=   5.75:PTOT=  73.90]
03076> *****************************************************************************************
03077> # EXT1
03078> *****************************************************************************************
03079> R1996:C00003------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03080>      CALIB NASHYD            1.0 01:EXT1           3.21     .134 No_date    3:49   36.11 .489     .000
03081>        [CN= 80.0: N= 3.00: Tp=  .72]
03082> *****************************************************************************************
03083> # EXT2
03084> *****************************************************************************************
03085> R1996:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03086>      CALIB NASHYD            1.0 01:EXT2           .28     .023 No_date    3:26   42.02 .569     .000
03087>        [CN= 85.0: N= 3.00: Tp=  .33]
03088> *****************************************************************************************
03089> # EXT3
03090> *****************************************************************************************
03091> R1996:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03092>      CALIB NASHYD            1.0 01:EXT3           .56     .041 No_date    3:26   36.11 .489     .000
03093>        [CN= 80.0: N= 3.00: Tp=  .32]
03094> *****************************************************************************************
03095> # EXT4
03096> *****************************************************************************************
03097> R1996:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03098>      CALIB NASHYD            1.0 01:EXT4           .31     .023 No_date    3:24   35.05 .474     .000
03099>        [CN= 79.0: N= 3.00: Tp=  .29]
03100> *****************************************************************************************
03101> # EXT5
03102> *****************************************************************************************
03103> R1996:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03104>      CALIB NASHYD            1.0 01:EXT5           .59     .031 No_date    3:34   32.07 .434     .000
03105>        [CN= 76.0: N= 3.00: Tp=  .45]
03106> *****************************************************************************************
03107> # EXT6
03108> *****************************************************************************************
03109> R1996:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03110>      CALIB NASHYD            1.0 01:EXT6           .86     .048 No_date    3:40   42.02 .569     .000
03111>        [CN= 85.0: N= 3.00: Tp=  .56]
03112> *****************************************************************************************
03113> # EXT7
03114> *****************************************************************************************
03115> R1996:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03116>      CALIB NASHYD            1.0 01:EXT7           .47     .037 No_date    3:26   39.53 .535     .000
03117>        [CN= 83.0: N= 3.00: Tp=  .32]
03118> *****************************************************************************************
03119> # EXT8
03120> *****************************************************************************************
03121> R1996:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03122>      CALIB NASHYD            1.0 01:EXT8           .83     .049 No_date    3:32   35.05 .474     .000
03123>        [CN= 79.0: N= 3.00: Tp=  .42]
03124> *****************************************************************************************
03125> # EXT9
03126> *****************************************************************************************
03127> R1996:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03128>      CALIB NASHYD            1.0 01:EXT9           3.57     .177 No_date    3:36   32.07 .434     .000
03129>        [CN= 76.0: N= 3.00: Tp=  .48]
03130> *****************************************************************************************
03131> # EXT9a
03132> *****************************************************************************************
03133> R1996:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03134>      CALIB NASHYD            1.0 01:EXT9a           .01     .001 No_date    1:26   34.01 .460     .000
03135>        [CN= 78.0: N= 3.00: Tp=  .04]
03136> *****************************************************************************************
03137> # EXT10
03138> *****************************************************************************************
03139> R1996:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03140>      CALIB NASHYD            1.0 01:EXT10           .20     .010 No_date    3:32   27.70 .375     .000
03141>        [CN= 71.0: N= 3.00: Tp=  .42]
03142> *****************************************************************************************
03143> # Pre2
03144> *****************************************************************************************
03145> R1996:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03146>      CALIB NASHYD            1.0 01:Pre2            .57     .030 No_date    3:34   34.02 .460     .000
03147>        [CN= 78.0: N= 3.00: Tp=  .46]
03148> *****************************************************************************************
03149> # Pre9
03150> *****************************************************************************************
03151> R1996:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03152>      CALIB NASHYD            1.0 01:Pre9            .83     .030 No_date    3:45   27.71 .375     .000
03153>        [CN= 71.0: N= 3.00: Tp=  .64]
03154> *****************************************************************************************
03155> # Pre10
03156> *****************************************************************************************
03157> R1996:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03158>      CALIB NASHYD            1.0 01:Pre10           .80     .049 No_date    3:24   27.71 .375     .000
03159>        [CN= 71.0: N= 3.00: Tp=  .29]
03160> *****************************************************************************************
03161> # Pre11
03162> *****************************************************************************************
03163> R1996:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03164>      CALIB NASHYD            1.0 01:Pre11           .07     .006 No_date    3:19   34.01 .460     .000
03165>        [CN= 78.0: N= 3.00: Tp=  .21]
03166> *****************************************************************************************
03167> R1996:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03168>      ADD HYD                 1.0 02:EXT2            .28     .023 No_date    3:26   42.02  n/a     .000
03169>                          +   1.0 02:Pre2            .57     .030 No_date    3:34   34.02  n/a     .000
03170>                      SUM=    1.0 01:J1              .85     .052 No_date    3:30   36.70  n/a     .000
03171> R1996:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03172>      ROUTE CHANNEL    ->    1.0 02:J1              .85     .052 No_date    3:30   36.70  n/a     .000
03173>        [RDT= 1.00] out<-    1.0 01:R1              .85     .050 No_date    3:35   36.70  n/a     .000
03174>        [L/S/n=  143./ .394/.035]
03175>        [Vmax=  .354:Dmax=  .147]
03176> R1996:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03177>      ADD HYD                 1.0 02:R1              .85     .050 No_date    3:35   36.70  n/a     .000
03178>                          +   1.0 02:EXT3            .56     .041 No_date    3:26   36.11  n/a     .000
03179>                          +   1.0 02:EXT1           3.21     .134 No_date    3:49   36.11  n/a     .000
03180>                      SUM=    1.0 01:J2             4.62     .210 No_date    3:39   36.22  n/a     .000
03181> R1996:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03182>      ROUTE CHANNEL    ->    1.0 02:J2             4.62     .210 No_date    3:39   36.22  n/a     .000
03183>        [RDT= 1.00] out<-    1.0 01:R2             4.62     .210 No_date    3:40   36.22  n/a     .000
03184>        [L/S/n=   73./ .425/.035]
03185>        [Vmax=  .499:Dmax=  .262]
03186> R1996:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03187>      ADD HYD                 1.0 02:R2             4.62     .210 No_date    3:40   36.22  n/a     .000
03188>                          +   1.0 02:EXT4            .31     .023 No_date    3:24   35.05  n/a     .000
03189>                      SUM=    1.0 01:J3             4.93     .226 No_date    3:38   36.14  n/a     .000
03190> R1996:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03191>      ROUTE CHANNEL    ->    1.0 02:J3             4.93     .226 No_date    3:38   36.14  n/a     .000
03192>        [RDT= 1.00] out<-    1.0 01:R3             4.93     .224 No_date    3:41   36.14  n/a     .000
03193>        [L/S/n=   92./ .274/.035]
03194>        [Vmax=  .409:Dmax=  .271]
03195> R1996:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03196>      ADD HYD                 1.0 02:R3             4.93     .224 No_date    3:41   36.14  n/a     .000
03197>                          +   1.0 02:EXT5            .59     .031 No_date    3:34   32.07  n/a     .000
03198>                      SUM=    1.0 01:J4             5.52     .254 No_date    3:40   35.71  n/a     .000
03199> R1996:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03200>      ROUTE CHANNEL    ->    1.0 02:J4             5.52     .254 No_date    3:40   35.71  n/a     .000
03201>        [RDT= 1.00] out<-    1.0 01:R4             5.52     .238 No_date    3:49   35.71  n/a     .000
03202>        [L/S/n=  251./ .190/.035]
03203>        [Vmax=  .401:Dmax=  .304]
03204> R1996:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03205>      ADD HYD                 1.0 02:R4             5.52     .238 No_date    3:49   35.71  n/a     .000
03206>                          +   1.0 02:EXT6            .86     .048 No_date    3:40   42.02  n/a     .000
03207>                          +   1.0 02:EXT7            .47     .037 No_date    3:26   39.53  n/a     .000
03208>                      SUM=    1.0 01:J5             6.86     .308 No_date    3:45   36.76  n/a     .000
03209> R1996:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03210>      ROUTE CHANNEL    ->    1.0 02:J5             6.86     .308 No_date    3:45   36.76  n/a     .000
03211>        [RDT= 1.00] out<-    1.0 01:R5             6.86     .302 No_date    3:50   36.76  n/a     .000
03212>        [L/S/n=  237./ .644/.035]
03213>        [Vmax=  .648:Dmax=  .282]
03214> R1996:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03215>      ROUTE CHANNEL    ->    1.0 02:Pre10           .80     .049 No_date    3:24   27.71  n/a     .000
03216>        [RDT= 1.00] out<-    1.0 01:R6              .80     .049 No_date    3:27   27.71  n/a     .000
03217>        [L/S/n=   77./ .776/.035]
03218>        [Vmax=  .492:Dmax=  .036]
03219> R1996:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03220>      ROUTE CHANNEL    ->    1.0 02:Pre9            .83     .030 No_date    3:45   27.71  n/a     .000
03221>        [RDT= 1.00] out<-    1.0 01:R7              .83     .029 No_date    3:49   27.71  n/a     .000
03222>        [L/S/n=  159./1.576/.035]
03223>        [Vmax=  .797:Dmax=  .009]
03224> R1996:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03225>      ADD HYD                 1.0 02:R6              .80     .049 No_date    3:27   27.79  n/a     .000
03226>                          +   1.0 02:EXT10           .20     .010 No_date    3:32   27.70  n/a     .000
03227>                      SUM=    1.0 01:J6             1.01     .058 No_date    3:27   27.77  n/a     .000
03228> R1996:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03229>      ROUTE CHANNEL    ->    1.0 02:J6             1.01     .058 No_date    3:27   27.77  n/a     .000
03230>        [RDT= 1.00] out<-    1.0 01:R8             1.01     .057 No_date    3:31   27.77  n/a     .000
03231>        [L/S/n=   79./ .522/.035]
03232>        [Vmax=  .423:Dmax=  .042]
03233> R1996:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03234>      ADD HYD                 1.0 02:R8             1.01     .057 No_date    3:31   27.77  n/a     .000
03235>                          +   1.0 02:R7              .83     .029 No_date    3:49   27.72  n/a     .000
03236>                      SUM=    1.0 01:J7             1.83     .082 No_date    3:34   27.75  n/a     .000
03237> R1996:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03238>      ROUTE CHANNEL    ->    1.0 02:J7             1.83     .082 No_date    3:34   27.75  n/a     .000
03239>        [RDT= 1.00] out<-    1.0 01:R9             1.83     .082 No_date    3:35   27.75  n/a     .000
03240>        [L/S/n=   29./ .887/.035]
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03241>       (Vmax=  .543:Dmax=  .056)
03242> R1996:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03243>     ADD HYD                 1.0 02:EXT9            3.57     .177 No_date    3:36   32.07  n/a     .000
03244>                       +     1.0 02:R9              1.83     .082 No_date    3:35   27.76  n/a     .000
03245>                       +     1.0 02:EXT8             .83     .049 No_date    3:32   35.05  n/a     .000
03246>                       +     1.0 02:R5              6.86     .302 No_date    3:50   36.76  n/a     .000
03247>                     SUM=    1.0 01:J8             13.10     .586 No_date    3:41   34.11  n/a     .000
03248> R1996:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03249>     ROUTE PIPE     ->    1.0 02:J8             13.10     .586 No_date    3:41   34.11  n/a     .000
03250> *   [RDT= 1.00] out<-    1.0 01:Outlet         13.10     .586 No_date    3:42   34.11  n/a     .000
03251>       [L/S/n=   8./ .010/.013]
03252>       (Vmax=  .435:Dmax= 1.148)
03253>       [Din=  .53:Dused= 1.40)
03254> ###############################################################################
03255> # STORMS
03256> ###############################################################################
03257>   ** END OF RUN : 9998
03258>
03259> ********************************************************************************************************
03260>
03261>
03262>
03263>
03264>
03265>  RUN#:COMMAND#
03266> R9999:C00001------------------------------------------------------------------------------------------
03267>     START
03268>       [TZERO =      .00 hrs on      0]
03269>       [METOUT=   2    (1=imperial, 2=metric output)]
03270>       [NSTORM=   1 ]
03271>       [NRUN  = 9999 ]
03272> ********************************************************************************************************
03273> #  SWMHYMO  / INPUT DATA FILE
03274> ********************************************************************************************************
03275> #  Project Name  : [5923 Ottawa St]
03276> #  Project Number: [P2710(e01)]
03277> #  Date          : [2025 FEB 05]
03278> #  Modeller      : [MM]
03279> #  Company       : JFSA Canada Inc.
03280> #  License #     : 2549237
03281> ********************************************************************************************************
03282> # Model developed to simulate runoff from subcatchments under pre development conditions
03283> ********************************************************************************************************
03284> R9999:C00002------------------------------------------------------------------------------------------
03285>     READ STORM
03286>      Filename = STORM.001
03287>      Comment  = CHICAGO STORM   100 Year, 3 Hours  +20% Stress Test
03288>      [SDT=10.00:SDUR=   3.00:PTOT=  86.00]
03289> ********************************************************************************************************
03290> # EXT1
03291> ********************************************************************************************************
03292> R9999:C00003------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03293>     CALIB NASHYD            1.0 01:EXT1            3.21     .224 No_date    1:51   45.67 .531     .000
03294>       [CN= 80.0: N= 3.00: Tp=  .72]
03295> ********************************************************************************************************
03296> # EXT2
03297> ********************************************************************************************************
03298> R9999:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03299>     CALIB NASHYD            1.0 01:EXT2             .28     .041 No_date    1:21   52.43 .610     .000
03300>       [CN= 85.0: N= 3.00: Tp=  .33]
03301> ********************************************************************************************************
03302> # EXT3
03303> ********************************************************************************************************
03304> R9999:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03305>     CALIB NASHYD            1.0 01:EXT3             .56     .070 No_date    1:21   45.67 .531     .000
03306>       [CN= 80.0: N= 3.00: Tp=  .32]
03307> ********************************************************************************************************
03308> # EXT4
03309> ********************************************************************************************************
03310> R9999:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03311>     CALIB NASHYD            1.0 01:EXT4             .31     .040 No_date    1:19   44.44 .517     .000
03312>       [CN= 79.0: N= 3.00: Tp=  .29]
03313> ********************************************************************************************************
03314> # EXT5
03315> ********************************************************************************************************
03316> R9999:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03317>     CALIB NASHYD            1.0 01:EXT5             .59     .052 No_date    1:31   40.94 .476     .000
03318>       [CN= 76.0: N= 3.00: Tp=  .45]
03319> ********************************************************************************************************
03320> # EXT6
03321> ********************************************************************************************************
03322> R9999:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03323>     CALIB NASHYD            1.0 01:EXT6             .86     .085 No_date    1:38   52.43 .610     .000
03324>       [CN= 85.0: N= 3.00: Tp=  .56]
03325> ********************************************************************************************************
03326> # EXT7
03327> ********************************************************************************************************
03328> R9999:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03329>     CALIB NASHYD            1.0 01:EXT7             .47     .064 No_date    1:21   49.60 .577     .000
03330>       [CN= 83.0: N= 3.00: Tp=  .32]
03331> ********************************************************************************************************
03332> # EXT8
03333> ********************************************************************************************************
03334> R9999:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03335>     CALIB NASHYD            1.0 01:EXT8             .83     .083 No_date    1:29   44.44 .517     .000
03336>       [CN= 79.0: N= 3.00: Tp=  .42]
03337> ********************************************************************************************************
03338> # EXT9
03339> ********************************************************************************************************
03340> R9999:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03341>     CALIB NASHYD            1.0 01:EXT9            3.57     .297 No_date    1:34   40.95 .476     .000
03342>       [CN= 76.0: N= 3.00: Tp=  .48]
03343> ********************************************************************************************************
03344> # EXT9a
03345> ********************************************************************************************************
03346> R9999:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03347>     CALIB NASHYD            1.0 01:EXT9a            .01     .004 No_date    1:00   43.23 .503     .000
03348>       [CN= 78.0: N= 3.00: Tp=  .04]
03349> ********************************************************************************************************
03350> # EXT10
03351> ********************************************************************************************************
03352> R9999:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03353>     CALIB NASHYD            1.0 01:EXT10            .20     .016 No_date    1:29   35.74 .416     .000
03354>       [CN= 71.0: N= 3.00: Tp=  .42]
03355> ********************************************************************************************************
03356> # Pre2
03357> ********************************************************************************************************
03358> R9999:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03359>     CALIB NASHYD            1.0 01:Pre2             .57     .051 No_date    1:32   43.24 .503     .000
03360>       [CN= 78.0: N= 3.00: Tp=  .46]
03361> ********************************************************************************************************
03362> # Pre9
03363> ********************************************************************************************************
03364> R9999:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03365>     CALIB NASHYD            1.0 01:Pre9             .83     .048 No_date    1:47   35.74 .416     .000
03366>       [CN= 71.0: N= 3.00: Tp=  .64]
03367> ********************************************************************************************************
03368> # Pre10
03369> ********************************************************************************************************
03370> R9999:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03371>     CALIB NASHYD            1.0 01:Pre10            .80     .081 No_date    1:19   35.74 .416     .000
03372>       [CN= 71.0: N= 3.00: Tp=  .29]
03373> ********************************************************************************************************
03374> # Pre11
03375> ********************************************************************************************************
03376> R9999:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03377>     CALIB NASHYD            1.0 01:Pre11            .07     .011 No_date    1:13   43.23 .503     .000
03378>       [CN= 78.0: N= 3.00: Tp=  .21]
03379> ********************************************************************************************************
03380> R9999:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03381>     ADD HYD                 1.0 02:EXT2             .28     .041 No_date    1:21   52.43  n/a     .000
03382>                       +     1.0 02:Pre2             .57     .051 No_date    1:32   43.24  n/a     .000
03383>                     SUM=    1.0 01:J1               .85     .090 No_date    1:26   46.32  n/a     .000
03384> R9999:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03385>     ROUTE CHANNEL   ->    1.0 02:J1               .85     .090 No_date    1:26   46.32  n/a     .000
03386>       [RDT= 1.00] out<-   1.0 01:R1               .85     .087 No_date    1:32   46.32  n/a     .000
03387>         [L/S/n=  143./ .394/.035]
03388>       (Vmax=  .410:Dmax=  .185)
03389> R9999:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03390>     ADD HYD                 1.0 02:R1               .85     .087 No_date    1:32   46.32  n/a     .000
03391>                       +     1.0 02:EXT3             .56     .070 No_date    1:21   45.67  n/a     .000
03392>                       +     1.0 02:EXT1            3.21     .224 No_date    1:51   45.67  n/a     .000
03393>                     SUM=    1.0 01:J2              4.62     .346 No_date    1:39   45.79  n/a     .000
03394> R9999:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03395>     ROUTE CHANNEL   ->    1.0 02:J2              4.62     .346 No_date    1:39   45.79  n/a     .000
03396>       [RDT= 1.00] out<-   1.0 01:R2              4.62     .346 No_date    1:40   45.79  n/a     .000
03397>         [L/S/n=   73./ .425/.035]
03398>       (Vmax=  .568:Dmax=  .320)
03399> R9999:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03400>     ADD HYD                 1.0 02:R2              4.62     .346 No_date    1:40   45.79  n/a     .000
03401>                       +     1.0 02:EXT4             .31     .040 No_date    1:19   44.44  n/a     .000
03402>                     SUM=    1.0 01:J3              4.93     .372 No_date    1:38   45.70  n/a     .000
03403> R9999:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03404>     ROUTE CHANNEL   ->    1.0 02:J3              4.93     .372 No_date    1:38   45.70  n/a     .000
03405>       [RDT= 1.00] out<-   1.0 01:R3              4.93     .369 No_date    1:40   45.70  n/a     .000
03406>         [L/S/n=   92./ .274/.035]
03407>       (Vmax=  .465:Dmax=  .330)
03408> R9999:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03409>     ADD HYD                 1.0 02:R3              4.93     .369 No_date    1:40   45.70  n/a     .000
03410>                       +     1.0 02:EXT5             .59     .052 No_date    1:31   40.94  n/a     .000
03411>                     SUM=    1.0 01:J4              5.52     .419 No_date    1:39   45.19  n/a     .000
03412> R9999:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03413>     ROUTE CHANNEL   ->    1.0 02:J4              5.52     .419 No_date    1:39   45.19  n/a     .000
03414>       [RDT= 1.00] out<-   1.0 01:R4              5.52     .399 No_date    1:48   45.19  n/a     .000
03415>         [L/S/n=  251./ .190/.035]
03416>       (Vmax=  .463:Dmax=  .380)
03417> R9999:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03418>     ADD HYD                 1.0 02:R4              5.52     .399 No_date    1:48   45.19  n/a     .000
03419>                       +     1.0 02:EXT6             .86     .085 No_date    1:38   52.43  n/a     .000
03420>                       +     1.0 02:EXT7             .47     .064 No_date    1:21   49.60  n/a     .000
03421>                     SUM=    1.0 01:J5              6.86     .519 No_date    1:44   46.41  n/a     .000
03422> R9999:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03423>     ROUTE CHANNEL   ->    1.0 02:J5              6.86     .519 No_date    1:44   46.41  n/a     .000
03424>       [RDT= 1.00] out<-   1.0 01:R5              6.86     .513 No_date    1:49   46.41  n/a     .000
03425>         [L/S/n=  237./ .644/.035]
03426>       (Vmax=  .757:Dmax=  .348)
03427> R9999:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03428>     ROUTE CHANNEL   ->    1.0 02:Pre10            .80     .081 No_date    1:19   35.74 .416     .000
03429>       [RDT= 1.00] out<-   1.0 01:R6               .80     .080 No_date    1:22   35.74  n/a     .000
03430>         [L/S/n=   77./ .776/.035]
03431>       (Vmax=  .492:Dmax=  .059)
03432> R9999:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03433>     ROUTE CHANNEL   ->    1.0 02:Pre9             .83     .048 No_date    1:47   35.74  n/a     .000
03434>       [RDT= 1.00] out<-   1.0 01:R7               .83     .048 No_date    1:50   35.74  n/a     .000
03435>         [L/S/n=  159./1.576/.035]
03436>       (Vmax=  .797:Dmax=  .014)
03437> R9999:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03438>     ADD HYD                 1.0 02:R6               .80     .080 No_date    1:22   36.02  n/a     .000
03439>                       +     1.0 02:EXT10            .20     .016 No_date    1:29   35.74  n/a     .000
03440>                     SUM=    1.0 01:J6              1.01     .095 No_date    1:23   35.96  n/a     .000
03441> R9999:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03442>     ROUTE CHANNEL   ->    1.0 02:J6              1.01     .095 No_date    1:23   35.96  n/a     .000
03443>       [RDT= 1.00] out<-   1.0 01:R8              1.01     .093 No_date    1:26   35.96  n/a     .000
03444>         [L/S/n=   79./ .522/.035]
03445>       (Vmax=  .423:Dmax=  .070)
03446> R9999:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03447>     ADD HYD                 1.0 02:R8              1.01     .093 No_date    1:26   35.96  n/a     .000
03448>                       +     1.0 02:R7              1.83     .048 No_date    1:50   35.77  n/a     .000
03449>                     SUM=    1.0 01:J7              1.83     .131 No_date    1:31   35.88  n/a     .000
03450> R9999:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03451>     ROUTE CHANNEL   ->    1.0 02:J7              1.83     .131 No_date    1:31   35.88  n/a     .000
03452>       [RDT= 1.00] out<-   1.0 01:R9              1.83     .131 No_date    1:32   35.88  n/a     .000
03453>         [L/S/n=   29./ .887/.035]
03454>       (Vmax=  .543:Dmax=  .089)
03455> R9999:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03456>     ADD HYD                 1.0 02:EXT9            3.57     .297 No_date    1:34   40.95  n/a     .000
03457>                       +     1.0 02:R9              1.83     .131 No_date    1:32   35.89  n/a     .000
03458>                       +     1.0 02:EXT8             .83     .083 No_date    1:29   44.44  n/a     .000
03459>                       +     1.0 02:R5              6.86     .513 No_date    1:49   46.41  n/a     .000
03460>                     SUM=    1.0 01:J8             13.10     .984 No_date    1:41   43.32  n/a     .000
03461> R9999:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03462>     ROUTE PIPE     ->    1.0 02:J8             13.10     .984 No_date    1:41   43.32  n/a     .000
03463> *   [RDT= 1.00] out<-   1.0 01:Outlet         13.10     .983 No_date    1:42   43.32  n/a     .000
03464>       [L/S/n=   8./ .010/.013]
03465>       (Vmax=  .495:Dmax= 1.394)
03466>       [Din=  .53:Dused= 1.70)
03467> ###############################################################################
03468> # STORMS
03469> ###############################################################################
03470> R9999:C00002------------------------------------------------------------------------------------------
03471>     FINISH
03472>     ----------
03473> ********************************************************************************************************
03474>      WARNINGS / ERRORS / NOTES
03475>      -------------------------
03476> R0002:C00035  ROUTE PIPE      ->
03477> *** WARNING: New pipe size used for routing.
03478> *** WARNING: New pipe size used for routing.
03479> *** WARNING: New pipe size used for routing.
03480> *** WARNING: New pipe size used for routing.
03481> *** WARNING: New pipe size used for routing.
03482> *** WARNING: New pipe size used for routing.
03483> *** WARNING: New pipe size used for routing.
03484> *** WARNING: New pipe size used for routing.
03485> *** WARNING: New pipe size used for routing.
03486> *** WARNING: New pipe size used for routing.
03487> *** WARNING: New pipe size used for routing.
03488> *** WARNING: New pipe size used for routing.
03489> *** WARNING: New pipe size used for routing.
03490> *** WARNING: New pipe size used for routing.
03491> *** WARNING: New pipe size used for routing.
03492> *** WARNING: New pipe size used for routing.
03493>    Simulation ended on 2025-09-10     at 20:42:50
03494> ============================================================================================================
03495>
```
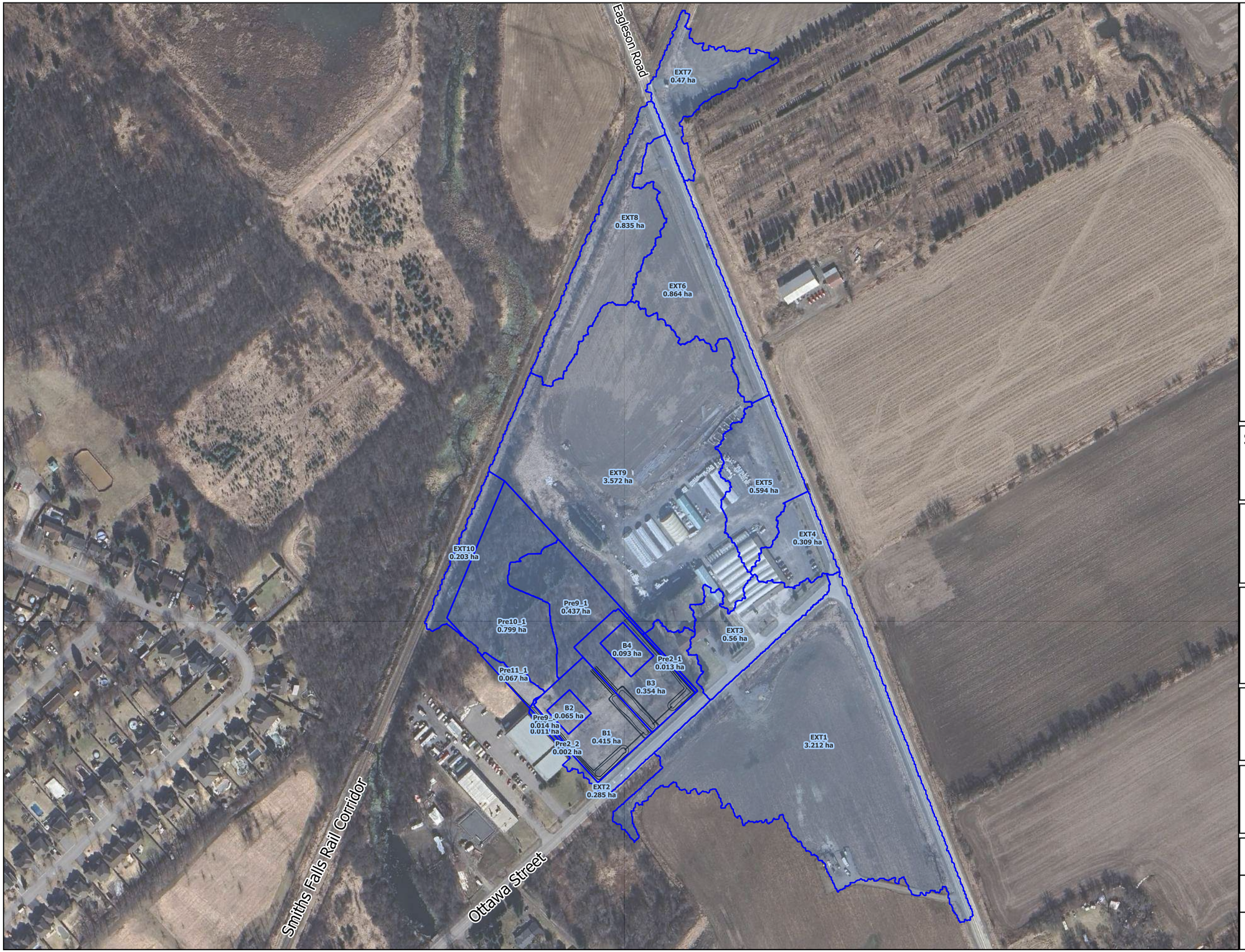

Attachment B

Post-Development Hydrology



N

Legend

- Post-development Subcatchments
- Site Plan

EXT1 — Subcatchment Name
3.212 ha — Subcatchment Area (ha)

SCALE: 1:3000

0 50 100 150 m

JFSA CANADA INC
WATER RESOURCE ENGINEERING, ENVIRONMENTAL MANAGEMENT AND LAND PLANNING CONSULTANTS

egis

5923 Ottawa St – Richmond

Figure B1: Proposed Drainage Areas

PROJECT	P2710(e01)
DRAWN	MM
DATE	04-06-2025

C:\Users\JonathonBurnett\J.F. Sabourin and Associates Inc\JFSA-OTTAWA-SERVER - Documents\PROJ\2710(e01)\Design\GIS\20250603-Attachments

Table B1 - Site 1 - Stage/Storage/Outflow Curves

					Quality Control 1		Overflow			
					Vertical Orifice		Broad Crested Weir			
					Dia (m)	0.075	L (m)	0.300		
					Area (m^2)	0.006				
					Invert (m)	93.84	C_w	1.580		
					C_o	0.61	Invert (m)	94.40		
					Q @ D	0.002	n contr.	2	Total	
Elevation (m)	Storage 1 (m^3)	Storage 2 (m^3)	Total Volume (m^3)	Demarcation Points	Depth (m)	Outflow (m^3/s)	Depth (m)	Outflow (m^3/s)	Outflow (m^3/s)	Storage (ha·m)
93.84		**0.0**	**0.0**	**Pond Bottom**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
93.85		0.0	0.0		0.010	0.000	0.000	0.000	0.000	0.000
93.86		0.0	0.0		0.020	0.001	0.000	0.000	0.001	0.000
93.87		0.2	0.2		0.030	0.001	0.000	0.000	0.001	0.000
93.88		0.3	0.3		0.040	0.001	0.000	0.000	0.001	0.000
93.89		0.6	0.6		0.050	0.002	0.000	0.000	0.002	0.000
93.90		0.9	0.9		0.060	0.002	0.000	0.000	0.002	0.000
93.91		1.4	1.4		0.070	0.002	0.000	0.000	0.002	0.000
93.92		1.9	1.9		0.080	0.002	0.000	0.000	0.002	0.000
93.93		2.5	2.5		0.090	0.003	0.000	0.000	0.003	0.000
93.94		3.2	3.2		0.100	0.003	0.000	0.000	0.003	0.000
93.95		4.0	4.0		0.110	0.003	0.000	0.000	0.003	0.000
93.96		4.9	4.9		0.120	0.003	0.000	0.000	0.003	0.000
93.97		5.9	5.9		0.130	0.004	0.000	0.000	0.004	0.001
93.98		6.9	6.9		0.140	0.004	0.000	0.000	0.004	0.001
93.99		8.1	8.1		0.150	0.004	0.000	0.000	0.004	0.001
94.00		9.3	9.3		0.160	0.004	0.000	0.000	0.004	0.001
94.01	0.00	10.6	10.6		0.170	0.004	0.000	0.000	0.004	0.001
94.02	0.01	12.0	12.1		0.180	0.005	0.000	0.000	0.005	0.001
94.03	0.05	13.6	13.6		0.190	0.005	0.000	0.000	0.005	0.001
94.04	0.16	15.2	15.3		0.200	0.005	0.000	0.000	0.005	0.002
94.05	0.39	16.9	17.2		0.210	0.005	0.000	0.000	0.005	0.002
94.06	0.74	18.7	19.4		0.220	0.005	0.000	0.000	0.005	0.002
94.07	1.20	20.5	21.7		0.230	0.005	0.000	0.000	0.005	0.002
94.08	1.78	22.5	24.3		0.240	0.005	0.000	0.000	0.005	0.002
94.09	2.46	24.6	27.1		0.250	0.006	0.000	0.000	0.006	0.003
94.10	3.24	26.8	30.1		0.260	0.006	0.000	0.000	0.006	0.003
94.11	4.12	29.1	33.2		0.270	0.006	0.000	0.000	0.006	0.003
94.12	4.61	31.5	36.1		0.280	0.006	0.000	0.000	0.006	0.004
94.13	5.63	34.0	39.7		0.290	0.006	0.000	0.000	0.006	0.004
94.14	6.85	36.6	43.5		0.300	0.006	0.000	0.000	0.006	0.004
94.15	8.19	39.3	47.5		0.310	0.006	0.000	0.000	0.006	0.005
94.16	9.66	42.0	51.7		0.320	0.006	0.000	0.000	0.006	0.005
94.17	11.17	44.8	56.0		0.330	0.006	0.000	0.000	0.006	0.006
94.18	12.00	47.6	59.6		0.340	0.007	0.000	0.000	0.007	0.006
94.19	13.82	50.5	64.3		0.350	0.007	0.000	0.000	0.007	0.006
94.20	15.76	53.3	69.1		0.360	0.007	0.000	0.000	0.007	0.007
94.21	17.78	56.3	74.0		0.370	0.007	0.000	0.000	0.007	0.007
94.22	19.87	59.2	79.1		0.380	0.007	0.000	0.000	0.007	0.008
94.23	22.01	62.2	84.2		0.390	0.007	0.000	0.000	0.007	0.008
94.24	24.17	65.1	89.3		0.400	0.007	0.000	0.000	0.007	0.009
94.25	26.36	68.2	94.5		0.410	0.007	0.000	0.000	0.007	0.009
94.26	28.57	71.2	99.8		0.420	0.007	0.000	0.000	0.007	0.010
94.27	30.81	74.3	105.1		0.430	0.007	0.000	0.000	0.007	0.011
94.28	33.07	77.4	110.5		0.440	0.008	0.000	0.000	0.008	0.011
94.29	35.35	80.5	115.9		0.450	0.008	0.000	0.000	0.008	0.012
94.30	37.66	83.7	121.3		0.460	0.008	0.000	0.000	0.008	0.012
94.31	39.99	86.9	126.9		0.470	0.008	0.000	0.000	0.008	0.013
94.32	42.35	90.1	132.5		0.480	0.008	0.000	0.000	0.008	0.013
94.33	44.74	93.4	138.1		0.490	0.008	0.000	0.000	0.008	0.014
94.34	47.15	96.7	143.8		0.500	0.008	0.000	0.000	0.008	0.014
94.35	49.58	100.0	149.6		0.510	0.008	0.000	0.000	0.008	0.015
94.36	52.04	103.4	155.4		0.520	0.008	0.000	0.000	0.008	0.016
94.37	54.52	106.8	161.3		0.530	0.008	0.000	0.000	0.008	0.016
94.38	57.03	110.2	167.2		0.540	0.008	0.000	0.000	0.008	0.017
94.39	59.56	113.7	173.3		0.550	0.009	0.000	0.000	0.009	0.017
94.40	**62.12**	**117.2**	**179.3**	**Max100-Yr WSE***	**0.560**	**0.009**	**0.000**	**0.000**	**0.009**	**0.018**
94.41	64.70	120.8	185.5		0.570	0.009	0.010	0.000	0.009	0.019
94.42	67.31	124.4	191.7		0.580	0.009	0.020	0.001	0.010	0.019
94.43	69.95	128.0	197.9		0.590	0.009	0.030	0.002	0.011	0.020
94.44	72.61	131.7	204.3		0.600	0.009	0.040	0.004	0.013	0.020
94.45	75.29	135.4	210.7		0.610	0.009	0.050	0.005	0.014	0.021
94.46	78.00	139.1	217.1		0.620	0.009	0.060	0.007	0.016	0.022
94.47	80.74	142.9	223.7		0.630	0.009	0.070	0.008	0.018	0.022
94.48	83.50	146.8	230.3		0.640	0.009	0.080	0.010	0.019	0.023
94.49	86.29	150.7	237.0		0.650	0.009	0.090	0.012	0.021	0.024
94.50	89.10	154.6	243.7		0.660	0.009	0.100	0.014	0.023	0.024
94.51	91.94	158.6	250.5		0.670	0.009	0.110	0.016	0.026	0.025
94.52	94.81	162.6	257.4		0.680	0.010	0.120	0.018	0.028	0.026
94.53	97.70	166.7	264.4		0.690	0.010	0.130	0.020	0.030	0.026
94.54	100.61	170.8	271.4		0.700	0.010	0.140	0.023	0.032	0.027
94.55	103.56	175.0	278.5		0.710	0.010	0.150	0.025	0.035	0.028
94.56	106.53	179.2	285.7		0.720	0.010	0.160	0.027	0.037	0.029
94.57	109.52	183.5	293.0		0.730	0.010	0.170	0.029	0.039	0.029
94.58	112.54	187.8	300.3		0.740	0.010	0.180	0.032	0.042	0.030
94.59	115.59	192.2	307.7		0.750	0.010	0.190	0.034	0.044	0.031
94.60	118.66	196.6	315.2		0.760	0.010	0.200	0.037	0.047	0.032
94.61	119.86	201.1	320.9		0.770	0.010	0.210	0.039	0.049	0.032
94.62	121.07	205.6	326.7		0.780	0.010	0.220	0.042	0.052	0.033
94.63	124.27	210.2	334.5		0.790	0.010	0.230	0.044	0.055	0.033
94.64	125.49	214.9	340.4		0.800	0.010	0.240	0.047	0.057	0.034
94.65	125.52	219.6	345.1		0.810	0.010	0.250	0.049	0.060	0.035
94.66	126.70	224.3	351.0		0.820	0.011	0.260	0.052	0.063	0.035
94.67	127.87	229.2	357.0		0.830	0.011	0.270	0.055	0.065	0.036
94.68	131.15	234.1	365.2		0.840	0.011	0.280	0.057	0.068	0.037
94.69	132.31	239.0	371.3		0.850	0.011	0.290	0.060	0.070	0.037
94.70	132.31	244.0	376.3	**Pond Spill**	0.860	0.011	0.300	0.062	0.073	0.038

*Maximum allowable 100-year water level in the pond - not the simulated 100 year water level

Table B2 - Site 2 - Stage/Storage/Outflow Curves

					Quality Control 1		Emergency Overflow			
					Vertical Orifice		Broad Crested Weir			
					Dia (m)	0.075	L (m)	0.300		
					Area (m^2)	0.006				
					Invert (m)	93.71	C_w	1.580		
					C_o	0.61	Invert (m)	94.40		
					Q @ D	0.002	n contr.	2	Total	
Elevation (m)	Storage 3 (m^3)	Storage 4 (m^3)	Total Volume (m^3)	Demarcation Points	Depth (m)	Outflow (m^3/s)	Depth (m)	Outflow (m^3/s)	Outflow (m^3/s)	Storage (ha·m)
93.71		**0.0**	**0.0**	**Pond Bottom**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
93.72		0.0	0.0		0.010	0.000	0.000	0.000	0.000	0.000
93.73		0.0	0.0		0.020	0.001	0.000	0.000	0.001	0.000
93.74		0.1	0.1		0.030	0.001	0.000	0.000	0.001	0.000
93.75		0.3	0.3		0.040	0.001	0.000	0.000	0.001	0.000
93.76		0.6	0.6		0.050	0.002	0.000	0.000	0.002	0.000
93.77		1.0	1.0		0.060	0.002	0.000	0.000	0.002	0.000
93.78		1.6	1.6		0.070	0.002	0.000	0.000	0.002	0.000
93.79		2.3	2.3		0.080	0.002	0.000	0.000	0.002	0.000
93.80		3.2	3.2		0.090	0.003	0.000	0.000	0.003	0.000
93.81		4.3	4.3		0.100	0.003	0.000	0.000	0.003	0.000
93.82		5.4	5.4		0.110	0.003	0.000	0.000	0.003	0.001
93.83		6.5	6.5		0.120	0.003	0.000	0.000	0.003	0.001
93.84		7.7	7.7		0.130	0.004	0.000	0.000	0.004	0.001
93.85		8.9	8.9		0.140	0.004	0.000	0.000	0.004	0.001
93.86		10.2	10.2		0.150	0.004	0.000	0.000	0.004	0.001
93.87		11.4	11.4		0.160	0.004	0.000	0.000	0.004	0.001
93.88		12.7	12.7		0.170	0.004	0.000	0.000	0.004	0.001
93.89		13.9	13.9		0.180	0.005	0.000	0.000	0.005	0.001
93.90		15.2	15.2		0.190	0.005	0.000	0.000	0.005	0.002
93.91		16.5	16.5		0.200	0.005	0.000	0.000	0.005	0.002
93.92		17.8	17.8		0.210	0.005	0.000	0.000	0.005	0.002
93.93		19.1	19.1		0.220	0.005	0.000	0.000	0.005	0.002
93.94		20.5	20.5		0.230	0.005	0.000	0.000	0.005	0.002
93.95		21.8	21.8		0.240	0.005	0.000	0.000	0.005	0.002
93.96		23.2	23.2		0.250	0.006	0.000	0.000	0.006	0.002
93.97		24.6	24.6		0.260	0.006	0.000	0.000	0.006	0.002
93.98		26.0	26.0		0.270	0.006	0.000	0.000	0.006	0.003
93.99		27.4	27.4		0.280	0.006	0.000	0.000	0.006	0.003
94.00		28.9	28.9		0.290	0.006	0.000	0.000	0.006	0.003
94.01		30.4	30.4		0.300	0.006	0.000	0.000	0.006	0.003
94.02		31.8	31.8		0.310	0.006	0.000	0.000	0.006	0.003
94.03		33.4	33.4		0.320	0.006	0.000	0.000	0.006	0.003
94.04	0.0	34.9	34.9		0.330	0.006	0.000	0.000	0.006	0.003
94.05	0.1	36.4	36.6		0.340	0.007	0.000	0.000	0.007	0.004
94.06	0.4	38.0	38.4		0.350	0.007	0.000	0.000	0.007	0.004
94.07	0.8	39.6	40.4		0.360	0.007	0.000	0.000	0.007	0.004
94.08	1.3	41.2	42.5		0.370	0.007	0.000	0.000	0.007	0.004
94.09	1.8	42.9	44.7		0.380	0.007	0.000	0.000	0.007	0.004
94.10	2.5	44.5	47.0		0.390	0.007	0.000	0.000	0.007	0.005
94.11	3.3	46.2	49.5		0.400	0.007	0.000	0.000	0.007	0.005
94.12	4.1	48.0	52.1		0.410	0.007	0.000	0.000	0.007	0.005
94.13	4.5	49.7	54.2		0.420	0.007	0.000	0.000	0.007	0.005
94.14	5.6	51.5	57.1		0.430	0.007	0.000	0.000	0.007	0.006
94.15	6.7	53.3	60.0		0.440	0.008	0.000	0.000	0.008	0.006
94.16	8.0	55.1	63.1		0.450	0.008	0.000	0.000	0.008	0.006
94.17	8.5	57.0	65.5		0.460	0.008	0.000	0.000	0.008	0.007
94.18	10.0	58.9	68.9		0.470	0.008	0.000	0.000	0.008	0.007
94.19	11.6	60.8	72.4		0.480	0.008	0.000	0.000	0.008	0.007
94.20	13.3	62.7	76.0		0.490	0.008	0.000	0.000	0.008	0.008
94.21	15.1	64.7	79.8		0.500	0.008	0.000	0.000	0.008	0.008
94.22	17.0	66.7	83.8		0.510	0.008	0.000	0.000	0.008	0.008
94.23	19.1	68.8	87.8		0.520	0.008	0.000	0.000	0.008	0.009
94.24	21.1	70.9	92.0		0.530	0.008	0.000	0.000	0.008	0.009
94.25	23.2	73.0	96.2		0.540	0.008	0.000	0.000	0.008	0.010
94.26	25.4	75.1	100.5		0.550	0.009	0.000	0.000	0.009	0.010
94.27	27.5	77.3	104.8		0.560	0.009	0.000	0.000	0.009	0.010
94.28	29.7	79.5	109.2		0.570	0.009	0.000	0.000	0.009	0.011
94.29	31.9	81.8	113.7		0.580	0.009	0.000	0.000	0.009	0.011
94.30	34.1	84.1	118.2		0.590	0.009	0.000	0.000	0.009	0.012
94.31	36.4	86.4	122.8		0.600	0.009	0.000	0.000	0.009	0.012
94.32	38.7	88.7	127.4		0.610	0.009	0.000	0.000	0.009	0.013
94.33	41.0	91.1	132.1		0.620	0.009	0.000	0.000	0.009	0.013
94.34	43.3	93.6	136.9		0.630	0.009	0.000	0.000	0.009	0.014
94.35	45.7	96.1	141.7		0.640	0.009	0.000	0.000	0.009	0.014
94.36	48.1	98.6	146.7		0.650	0.009	0.000	0.000	0.009	0.015
94.37	50.5	101.2	151.7		0.660	0.009	0.000	0.000	0.009	0.015
94.38	52.9	103.8	156.7		0.670	0.009	0.000	0.000	0.009	0.016
94.39	55.4	106.5	161.9		0.680	0.010	0.000	0.000	0.010	0.016
94.40	**57.9**	**109.2**	**167.1**	**Max 100-Yr WSE***	**0.690**	**0.010**	**0.000**	**0.000**	**0.010**	**0.017**
94.41	60.4	112.0	172.4		0.700	0.010	0.010	0.000	0.010	0.017
94.42	62.9	114.8	177.7		0.710	0.010	0.020	0.001	0.011	0.018
94.43	65.5	117.7	183.2		0.720	0.010	0.030	0.002	0.012	0.018
94.44	68.1	119.9	188.0		0.730	0.010	0.040	0.004	0.014	0.019
94.45	70.7	122.0	192.7		0.740	0.010	0.050	0.005	0.015	0.019
94.46	73.4	123.8	197.2		0.750	0.010	0.060	0.007	0.017	0.020
94.47	76.1	125.7	201.8		0.760	0.010	0.070	0.008	0.019	0.020
94.48	78.8	127.2	206.0		0.770	0.010	0.080	0.010	0.020	0.021
94.49	81.5	129.4	210.9		0.780	0.010	0.090	0.012	0.022	0.021
94.50	84.3	131.0	215.2		0.790	0.010	0.100	0.014	0.024	0.022
94.51	87.1	133.1	220.2		0.800	0.010	0.110	0.016	0.026	0.022
94.52	89.9	134.7	224.6		0.810	0.010	0.120	0.018	0.029	0.022
94.53	92.7	135.4	228.1		0.820	0.011	0.130	0.020	0.031	0.023
94.53	92.7	135.4	228.1		0.820	0.011	0.130	0.020	0.031	0.023
94.54	95.6	137.6	233.2		0.830	0.011	0.140	0.023	0.033	0.023
94.55	98.5	137.6	236.1		0.840	0.011	0.150	0.025	0.035	0.024
94.55	98.5	137.6	236.1		0.840	0.011	0.150	0.025	0.035	0.024
94.56	101.4	138.4	239.9		0.850	0.011	0.160	0.027	0.038	0.024
94.57	104.4	139.1	243.5		0.860	0.011	0.170	0.029	0.040	0.024
94.57	104.4	139.1	243.5		0.860	0.011	0.170	0.029	0.040	0.024
94.58	107.4	140.6	248.0		0.870	0.011	0.180	0.032	0.043	0.025
94.59	110.4	141.4	251.8		0.880	0.011	0.190	0.034	0.045	0.025
94.60	113.4	143.6	257.1		0.890	0.011	0.200	0.037	0.048	0.026
94.61	114.6	144.4	259.1		0.900	0.011	0.210	0.039	0.050	0.026
94.62	115.8	145.9	261.7		0.910	0.011	0.220	0.042	0.053	0.026
94.63	119.0	148.1	267.1		0.920	0.011	0.230	0.044	0.055	0.027
94.64	120.2	149.6	269.8		0.930	0.011	0.240	0.047	0.058	0.027
94.65	120.2	150.4	270.6		0.940	0.011	0.250	0.049	0.061	0.027
94.66	121.4	152.6	274.1		0.950	0.011	0.260	0.052	0.063	0.027
94.67	122.6	153.4	276.0		0.960	0.011	0.270	0.055	0.066	0.028
94.68	125.8	155.7	281.5		0.970	0.012	0.280	0.057	0.069	0.028
94.69	127.0	156.5	283.5		0.980	0.012	0.290	0.060	0.071	0.028
94.70	127.0	157.3	284.3	**Pond Spill**	0.990	0.012	0.300	0.062	0.074	0.028

*Maximum allowable 100-year water level in the pond

```
20    Metric units / ID numbers OFF
*#*******************************************************************************************
*#  SWMHYMO  / INPUT DATA FILE
*#*******************************************************************************************
*#  Project Name  : [5923 Ottawa St]
*#  Project Number: [P2710(e01)]
*#  Date          : [2025 April 28]
*#  Modeller      : [MM]
*#  Company       : JFSA Canada Inc.
*#  License #     : 2549237
*#*******************************************************************************************
*# Model developed to simulate runoff from subcatchments under post development
conditions
*#*******************************************************************************************
*%  25 mm Storm based on 2-Year, 3-Hour Chicago Storm
START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[002]
                   ["002YC3H.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|-------------------------------------------------------------|
READ STORM          STORM_FILENAME=["STORM.001"]
*%-----------------|-------------------------------------------------------------|
*#*******************************************************************************************
*%-----------------|-------------------------------------------------------------|
DEFAULT VALUES      ICASEdef=[1],  read values only
                    DEFVAL_FILENAME=["Ottawa.val"]
*%-----------------|-------------------------------------------------------------|
*#*******************************************************************************************
*# EXT1
*#*******************************************************************************************
CALIB NASHYD        NHYD=["EXT1"], DT[1](min), AREA=[3.211](ha),
                    DWF=[0](cms), CN=[80],
                    IA=[4.67](mm), N=[3], TP[0.72](hrs),
                    RAINFALL[ , , -1]
*#*******************************************************************************************
*# EXT2
*#*******************************************************************************************
CALIB NASHYD        NHYD=["EXT2"], DT[1](min), AREA=[0.285](ha),
                    DWF=[0](cms), CN=[85],
                    IA=[4.67](mm), N=[3], TP[0.33](hrs),
                    RAINFALL[ , , -1]
*#*******************************************************************************************
*# EXT3
*#*******************************************************************************************
CALIB NASHYD        NHYD=["EXT3"], DT[1](min), AREA=[0.560](ha),
                    DWF=[0](cms), CN=[80],
                    IA=[4.67](mm), N=[3], TP[0.32](hrs),
                    RAINFALL[ , , -1]
*#*******************************************************************************************
*# EXT4
*#*******************************************************************************************
CALIB NASHYD        NHYD=["EXT4"], DT[1](min), AREA=[0.309](ha),
                    DWF=[0](cms), CN=[79],
                    IA=[4.67](mm), N=[3], TP[0.29](hrs),
                    RAINFALL[ , , -1]
*#*******************************************************************************************
*# EXT5
```

```
*#*******************************************************************************************************
CALIB NASHYD        NHYD=["EXT5"], DT[1](min), AREA=[0.594](ha),
                    DWF=[0](cms), CN=[76],
                    IA=[4.67](mm), N=[3], TP[0.45](hrs),
                    RAINFALL[ , , -1]
*#*******************************************************************************************************
*# EXT6
*#*******************************************************************************************************
CALIB NASHYD        NHYD=["EXT6"], DT[1](min), AREA=[0.864](ha),
                    DWF=[0](cms), CN=[85],
                    IA=[4.67](mm), N=[3], TP[0.56](hrs),
                    RAINFALL[ , , -1]
*#*******************************************************************************************************
*# EXT7
*#*******************************************************************************************************
CALIB NASHYD        NHYD=["EXT7"], DT[1](min), AREA=[0.471](ha),
                    DWF=[0](cms), CN=[83],
                    IA=[4.67](mm), N=[3], TP[0.32](hrs),
                    RAINFALL[ , , -1]
*#*******************************************************************************************************
*# EXT8
*#*******************************************************************************************************
CALIB NASHYD        NHYD=["EXT8"], DT[1](min), AREA=[0.834](ha),
                    DWF=[0](cms), CN=[79],
                    IA=[4.67](mm), N=[3], TP[0.42](hrs),
                    RAINFALL[ , , -1]
*#*******************************************************************************************************
*# EXT9
*#*******************************************************************************************************
CALIB NASHYD        NHYD=["EXT9"], DT[1](min), AREA=[3.571](ha),
                    DWF=[0](cms), CN=[76],
                    IA=[4.67](mm), N=[3], TP[0.48](hrs),
                    RAINFALL[ , , -1]
*#*******************************************************************************************************
*# EXT9a
*#*******************************************************************************************************
CALIB NASHYD        NHYD=["EXT9a"], DT[1](min), AREA=[0.011](ha),
                    DWF=[0](cms), CN=[78],
                    IA=[4.67](mm), N=[3], TP[0.04](hrs),
                    RAINFALL[ , , -1]
*#*******************************************************************************************************
*# EXT10
*#*******************************************************************************************************
CALIB NASHYD        NHYD=["EXT10"], DT[1](min), AREA=[0.203](ha),
                    DWF=[0](cms), CN=[71],
                    IA=[4.67](mm), N=[3], TP[0.42](hrs),
                    RAINFALL[ , , -1]
*#*******************************************************************************************************
*# Pre2_1
*#*******************************************************************************************************
CALIB NASHYD        NHYD=["Pre2_1"], DT[1](min), AREA=[0.013](ha),
                    DWF=[0](cms), CN=[72],
                    IA=[4.67](mm), N=[3], TP[0.03](hrs),
                    RAINFALL[ , , -1]
```

```
*#*************************************************************************************************
*# Pre2_2
*#*************************************************************************************************
CALIB NASHYD        NHYD=["Pre2_2"], DT[1](min), AREA=[0.002](ha),
                    DWF=[0](cms), CN=[78],
                    IA=[4.67](mm), N=[3], TP[0.02](hrs),
                    RAINFALL[ , , -1]
*#*************************************************************************************************
*# Pre9_1
*#*************************************************************************************************
CALIB NASHYD        NHYD=["Pre9_1"], DT[1](min), AREA=[0.437](ha),
                    DWF=[0](cms), CN=[71],
                    IA=[4.67](mm), N=[3], TP[0.38](hrs),
                    RAINFALL[ , , -1]
*#*************************************************************************************************
*# Pre9_2
*#*************************************************************************************************
CALIB NASHYD        NHYD=["Pre9_2"], DT[1](min), AREA=[0.014](ha),
                    DWF=[0](cms), CN=[59],
                    IA=[4.67](mm), N=[3], TP[0.03](hrs),
                    RAINFALL[ , , -1]
*#*************************************************************************************************
*# Pre10_1
*#*************************************************************************************************
CALIB NASHYD        NHYD=["Pre10_1"], DT[1](min), AREA=[0.799](ha),
                    DWF=[0](cms), CN=[71],
                    IA=[4.67](mm), N=[3], TP[0.29](hrs),
                    RAINFALL[ , , -1]
*#*************************************************************************************************
*# Pre11_1
*#*************************************************************************************************
CALIB NASHYD        NHYD=["Pre11_1"], DT[1](min), AREA=[0.067](ha),
                    DWF=[0](cms), CN=[78],
                    IA=[4.67](mm), N=[3], TP[0.21](hrs),
                    RAINFALL[ , , -1]
*#*************************************************************************************************
*# Site 1
*#*************************************************************************************************
DESIGN STANDHYD     NHYD=["S1-B1"], DT=[1](min), AREA=[0.415](ha),
                    XIMP=[0.34], TIMP=[0.44], DWF=[0](cms),
                    LOSS=[1], SLOPE=[1.0](%), RAINFALL=[ , , -1](mm/hr)
*#*************************************************************************************************
*# Site 1 - Roof
*#*************************************************************************************************
DESIGN STANDHYD     NHYD=["S1-Roof"], DT=[1](min), AREA=[0.065](ha),
                    XIMP=[0.99], TIMP=[0.99], DWF=[0](cms),
                    LOSS=[1], SLOPE=[0.5](%), RAINFALL=[ , , -1](mm/hr)
*%-----------------|-------------------------------------------------------------------------|
* Rooftop Storage-Outflow Curve for site 1 Facility - From EGIS Report
ROUTE RESERVOIR     NHYDout=["S1-Roof-Out"], NHYDin=["S1-Roof"], RDT=[1](min),
                         TABLE of ( OUTFLOW-STORAGE ) values
                                   (cms) - (ha-m)
                                    [ 0 , 0 ]
                                    [ 0.0008 , 0.0007 ]
```

```
                                        [ 0.001 , 0.001 ]
                                        [ 0.0015 , 0.0015 ]
                                        [ 0.0018 , 0.0017 ]
                                        [ 0.0023 , 0.0022 ]
                                        [ 0.0025 , 0.0024 ]
                                        [ 0.0028 , 0.0027 ]
                                        [ 0.003 , 0.0029 ]
                                        [ 0.0033 , 0.0032 ]
                                        [ 0.0038 , 0.0037 ]
                                        [ 0.004 , 0.0039 ]
                                        [ 0.0045 , 0.0044 ]
                                        [ 0.0048 , 0.0046 ]
                                        [ 0.0051 , 0.0049 ]
                                        [ 0.0056 , 0.0054 ]
                                        [ 0.0063 , 0.0061 ]
                                        [ 0.0066 , 0.0064 ]
                                        [ 0.0076 , 0.0073 ]
                                        [ -1 , -1 ]
                                    NHYDovf=["S1-Roof-Over"],
*%-----------------|-------------------------------------------------------------------------
----|-------------------------|
ADD HYD             NHYDsum=["SITE1-IN"], NHYDs to add=["S1-B1"+"S1-Roof-Out"+
"S1-Roof-Over"]
*%-----------------|-------------------------------------------------------------------------
----|-------------------------|
* Pond for Site 1: Stage-Storage-Outflow
ROUTE RESERVOIR     NHYDout=["SITE1-Out"], NHYDin=["SITE1-IN"], RDT=[1](min),
                         TABLE of ( OUTFLOW-STORAGE ) values
                                        (cms) - (ha-m)
                                         [ 0.00000 , 0 ]
                                         [ 0.00154 , 0.00006 ]
                                         [ 0.00246 , 0.00019 ]
                                         [ 0.00321 , 0.0004 ]
                                         [ 0.00382 , 0.00069 ]
                                         [ 0.00435 , 0.00106 ]
                                         [ 0.00481 , 0.00153 ]
                                         [ 0.00524 , 0.00217 ]
                                         [ 0.00563 , 0.00301 ]
                                         [ 0.006 , 0.00397 ]
                                         [ 0.00634 , 0.00517 ]
                                         [ 0.00667 , 0.00643 ]
                                         [ 0.00699 , 0.00791 ]
                                         [ 0.00729 , 0.00945 ]
                                         [ 0.00757 , 0.01105 ]
                                         [ 0.00785 , 0.01269 ]
                                         [ 0.00812 , 0.01438 ]
                                         [ 0.00838 , 0.01613 ]
                                         [ 0.00863 , 0.01793 ]
                                         [ 0.01129 , 0.01979 ]
                                         [ 0.0158 , 0.02171 ]
                                         [ 0.02137 , 0.0237 ]
                                         [ 0.0277 , 0.02574 ]
                                         [ 0.03457 , 0.02785 ]
                                         [ 0.04186 , 0.03003 ]
                                         [ 0.04945 , 0.03209 ]
                                         [ 0.05724 , 0.03404 ]
                                         [ 0.06516 , 0.0357 ]
                                         [ 0.07313 , 0.03763 ]
                                         [ -1 , -1 ]
                                    NHYDovf=["SITE1-Over"],
*%-----------------|-------------------------------------------------------------------------
----|-------------------------|
*#*************************************************************************************
***********
*# Site 2
*#*************************************************************************************
***********
DESIGN STANDHYD     NHYD=["S2-B3"], DT=[1](min), AREA=[0.354](ha),
                    XIMP=[0.31], TIMP=[0.41], DWF=[0](cms),
```

```
                    LOSS=[1], SLOPE=[1.0](%), RAINFALL=[ , , -1](mm/hr)
*#*************************************************************************************************
*# Site 2 - Roof
*#*************************************************************************************************
DESIGN STANDHYD     NHYD=["S2-Roof"], DT=[1](min), AREA=[0.093](ha),
                    XIMP=[0.99], TIMP=[0.99], DWF=[0](cms),
                    LOSS=[1], SLOPE=[0.5](%), RAINFALL=[ , , -1](mm/hr)
*#*************************************************************************************************
* Rooftop Storage-Outflow Curve for site 2 Facility - From EGIS Report
ROUTE RESERVOIR     NHYDout=["S2-Roof-Out"], NHYDin=["S2-Roof"], RDT=[1](min),
                         TABLE of ( OUTFLOW-STORAGE ) values
                                   (cms) - (ha-m)
                                    [ 0 , 0 ]
                                    [ 0.0007 , 0 ]
                                    [ 0.0015 , 0.0001 ]
                                    [ 0.003 , 0.0002 ]
                                    [ 0.0037 , 0.0004 ]
                                    [ 0.0048 , 0.0007 ]
                                    [ 0.0053 , 0.0008 ]
                                    [ 0.0065 , 0.0014 ]
                                    [ 0.0072 , 0.0018 ]
                                    [ 0.0081 , 0.0025 ]
                                    [ 0.0084 , 0.0029 ]
                                    [ 0.0092 , 0.0042 ]
                                    [ 0.0099 , 0.006 ]
                                    [ 0.0104 , 0.0075 ]
                                    [ 0.0106 , 0.0083 ]
                                    [ 0.0112 , 0.0109 ]
                                    [ 0.0143 , 0.0128 ]
                                    [ 0.0174 , 0.0138 ]
                                    [ 0.0253 , 0.0158 ]
                                    [ 0.0276 , 0.0164 ]
                                    [ -1 , -1 ]
                                  NHYDovf=["S2-Roof-Over"],
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["SITE2-IN"], NHYDs to add=["S2-B3"+"S2-Roof-Out"+
"S2-Roof-Over"]
*%-----------------|-------------------------------------------------------------|
* Pond for Site 2: Stage-Storage-Outflow
ROUTE RESERVOIR     NHYDout=["SITE2-Out"], NHYDin=["SITE2-IN"], RDT=[1](min),
                         TABLE of ( OUTFLOW-STORAGE
                                   (cms) - (ha-m)
                                    [ 0 , 0 ]
                                    [ 0.0022 , 0.0002 ]
                                    [ 0.003 , 0.0004 ]
                                    [ 0.0036 , 0.0008 ]
                                    [ 0.0042 , 0.0011 ]
                                    [ 0.0047 , 0.0015 ]
                                    [ 0.0051 , 0.0019 ]
                                    [ 0.0055 , 0.0023 ]
                                    [ 0.0059 , 0.0027 ]
                                    [ 0.0062 , 0.0032 ]
                                    [ 0.0066 , 0.0037 ]
                                    [ 0.0069 , 0.0042 ]
                                    [ 0.0072 , 0.0049 ]
                                    [ 0.0075 , 0.0057 ]
                                    [ 0.0078 , 0.0065 ]
                                    [ 0.008 , 0.0076 ]
                                    [ 0.0083 , 0.0088 ]
                                    [ 0.0085 , 0.01 ]
                                    [ 0.0088 , 0.0114 ]
                                    [ 0.009 , 0.0127 ]
                                    [ 0.0093 , 0.0142 ]
                                    [ 0.0095 , 0.0157 ]
                                    [ 0.0102 , 0.0172 ]
                                    [ 0.0136 , 0.0188 ]
```

```
                                    [ 0.0185 , 0.0202 ]
                                    [ 0.0243 , 0.0215 ]
                                    [ 0.0309 , 0.0228 ]
                                    [ 0.0355 , 0.0236 ]
                                    [ 0.0403 , 0.0244 ]
                                    [ 0.0452 , 0.0252 ]
                                    [ 0.0529 , 0.0262 ]
                                    [ 0.0607 , 0.0271 ]
                                    [ 0.0686 , 0.0282 ]
                                    [ 0.074 , 0.0284 ]
                                    [ 0.0766 , 0.0287 ]
                                    [ 0.0793 , 0.0287 ]
                                    [ 0.0819 , 0.0287 ]
                                    [ 0.0819 , 0.0287 ]
                                    [ 0.0846 , 0.0287 ]
                                    [ 0.0872 , 0.0287 ]
                                    [ 0.0898 , 0.0287 ]
                                    [ 0.0924 , 0.0288 ]
                                    [ 0.095 , 0.0288 ]
                                    [ 0.0976 , 0.0288 ]
                                    [ 0.1027 , 0.0288 ]
                                    [ 0.1053 , 0.0288 ]
                                    [ 0.1078 , 0.0288 ]
                                    [ 0.1102 , 0.0288 ]
                                    [ 0.1127 , 0.0288 ]
                                    [ 0.1151 , 0.0289 ]
                                    [ 0.1175 , 0.0289 ]
                                    [ 0.1199 , 0.0289 ]
                                    [ 0.1222 , 0.0289 ]
                                    [ 0.129 , 0.0289 ]
                                    [ 0.1355 , 0.0289 ]
                                    [ 0.1417 , 0.0289 ]
                                    [ 0.1474 , 0.0289 ]
                                    [ 0.151 , 0.0289 ]
                                    [ 0.156 , 0.0289 ]
                                    [ -1 , -1 ]
                                  NHYDovf=["SITE2-Over"],
*%-----------------|-------------------------------------------------------|
ADD HYD             NHYDsum=["Site1"], NHYDs to add=["SITE1-Out"+"SITE1-Over"]
*%-----------------|-------------------------------------------------------|
ADD HYD             NHYDsum=["Site2"], NHYDs to add=["SITE2-Out"+"SITE2-Over"]
*%-----------------|-------------------------------------------------------|
ADD HYD             NHYDsum=["J1"], NHYDs to add=["EXT2"+"Pre2_1"+"Site1"+"Site2"]
*%-----------------|-------------------------------------------------------|
* NOTE: Cross-section number 849.0434 is taken from HEC-RAS Model
ROUTE CHANNEL       NHYDout=["R1"], NHYDin=["J1"], RDT=[1](min),
                    CHLGTH=[143.151](m), CHSLOPE=[0.394](%), FPSLOPE=[0.394](%),
                    SECNUM=[849.0434], NSEG=[3],
                      ( SEGROUGH, SEGDIST (m))=[0.08,18.95 -0.035,26.78 0.08,35.18] NSEG
                      times
                      ( DISTANCE (m), ELEVATION (m))=[0.48, 94.05]
                                                     [3.19, 93.99]
                                                     [6.85, 93.91]
                                                     [10.48, 93.87]
                                                     [17.45, 93.85]
                                                     [18.95, 93.84]
                                                     [20.36, 93.81]
                                                     [22.3, 93.76]
                                                     [22.53, 93.72]
                                                     [23.98, 93.35]
                                                     [24.35, 93.33]
                                                     [24.65, 93.37]
                                                     [25.04, 93.45]
                                                     [26.04, 93.74]
                                                     [26.44, 93.82]
                                                     [26.78, 93.87]
                                                     [29.14, 94.11]
                                                     [33.98, 94.26]
                                                     [35.18, 94.26]
```

```
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["J2"], NHYDs to add=["R1"+"EXT3"+"EXT1"]
*%-----------------|-------------------------------------------------------------|
* NOTE: Cross-section number 737.5813 is taken from HEC-RAS Model
ROUTE CHANNEL       NHYDout=["R2"], NHYDin=["J2"], RDT=[1](min),
                    CHLGTH=[73.338](m), CHSLOPE=[0.425](%), FPSLOPE=[0.425](%),
                    SECNUM=[737.5813], NSEG=[3],
                      ( SEGROUGH, SEGDIST (m))=[0.08,8.4 -0.035,16.42 0.08,22.6] NSEG
                      times
                      ( DISTANCE (m), ELEVATION (m))=[0, 93.52]
                                                     [1.08, 93.5]
                                                     [4.37, 93.48]
                                                     [6.31, 93.45]
                                                     [8.4, 93.38]
                                                     [9.5, 93.31]
                                                     [10.49, 93.23]
                                                     [10.99, 93.18]
                                                     [12.4, 92.94]
                                                     [13.11, 92.84]
                                                     [13.67, 92.92]
                                                     [16.42, 93.6]
                                                     [16.91, 93.65]
                                                     [17.97, 93.65]
                                                     [19, 93.83]
                                                     [19.51, 93.89]
                                                     [21.06, 93.94]
                                                     [22.6, 93.95]
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["J3"], NHYDs to add=["R2"+"EXT4"]
*%-----------------|-------------------------------------------------------------|
* NOTE: Cross-section number 675.4097 is taken from HEC-RAS Model
ROUTE CHANNEL       NHYDout=["R3"], NHYDin=["J3"], RDT=[1](min),
                    CHLGTH=[92.08](m), CHSLOPE=[0.274](%), FPSLOPE=[0.274](%),
                    SECNUM=[675.4097], NSEG=[3],
                      ( SEGROUGH, SEGDIST (m))=[0.08,31.64 -0.035,42.44 0.08,48.87] NSEG
                      times
                      ( DISTANCE (m), ELEVATION (m))=[30.59, 93.12]
                                                     [31.64, 93.13]
                                                     [34.35, 93.08]
                                                     [35.18, 93.03]
                                                     [37.78, 92.72]
                                                     [38.25, 92.64]
                                                     [38.7, 92.61]
                                                     [39.74, 92.76]
                                                     [42.44, 93.41]
                                                     [42.89, 93.49]
                                                     [43.97, 93.57]
                                                     [44.92, 93.6]
                                                     [46.07, 93.67]
                                                     [48.87, 93.74]
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["J4"], NHYDs to add=["R3"+"EXT5"]
*%-----------------|-------------------------------------------------------------|
* NOTE: Cross-section number 518.7506 is taken from HEC-RAS Model
ROUTE CHANNEL       NHYDout=["R4"], NHYDin=["J4"], RDT=[1](min),
                    CHLGTH=[251.495](m), CHSLOPE=[0.19](%), FPSLOPE=[0.19](%),
                    SECNUM=[518.7506], NSEG=[3],
                      ( SEGROUGH, SEGDIST (m))=[0.08,51.48 -0.035,59.39 0.08,66.4] NSEG
                      times
                      ( DISTANCE (m), ELEVATION (m))=[0, 92.92]
                                                     [4.26, 92.9]
                                                     [48.31, 92.76]
                                                     [51.48, 92.76]
                                                     [53.64, 92.7]
                                                     [55.33, 92.29]
                                                     [55.44, 92.29]
                                                     [56.43, 92.37]
                                                     [56.97, 92.43]
                                                     [59.39, 93.27]
```

```
                                                  [59.74, 93.37]
                                                  [60.8, 93.52]
                                                  [63.31, 93.71]
                                                  [66.4, 93.76]
*%-----------------|-------------------------------------------------------|
ADD HYD             NHYDsum=["J5"], NHYDs to add=["R4"+"EXT6"+"EXT7"]
*%-----------------|-------------------------------------------------------|
* NOTE: Cross-section number 275.0857 is taken from HEC-RAS Model
ROUTE CHANNEL       NHYDout=["R5"], NHYDin=["J5"], RDT=[1](min),
                    CHLGTH=[237.343](m), CHSLOPE=[0.644](%), FPSLOPE=[0.644](%),
                    SECNUM=[275.0857], NSEG=[3],
                      ( SEGROUGH, SEGDIST (m))=[0.08,40.82 -0.035,53.64 0.08,57.93] NSEG
                      times
                      ( DISTANCE (m), ELEVATION (m))=[36.16, 92.63]
                                                  [40.82, 92.97]
                                                  [41.39, 92.9]
                                                  [44.69, 91.72]
                                                  [45.24, 91.58]
                                                  [46.33, 91.43]
                                                  [47.41, 91.64]
                                                  [47.87, 91.75]
                                                  [49.59, 92.2]
                                                  [50.99, 92.36]
                                                  [51.44, 92.48]
                                                  [53.18, 92.98]
                                                  [53.64, 93.15]
                                                  [55.92, 93.66]
                                                  [57.93, 93.68]
*%-----------------|-------------------------------------------------------|
ADD HYD             NHYDsum=["Pre"], NHYDs to add=["Pre10_1"+"Pre9_2"+"Pre2_2"]
*%-----------------|-------------------------------------------------------|
* NOTE: Cross-section number 124 is taken from HEC-RAS Model
ROUTE CHANNEL       NHYDout=["R6"], NHYDin=["Pre"], RDT=[1](min),
                    CHLGTH=[77.414](m), CHSLOPE=[0.776](%), FPSLOPE=[0.776](%),
                    SECNUM=[124], NSEG=[3],
                      ( SEGROUGH, SEGDIST (m))=[0.08,8.34 -0.035,31.31 0.08,84.97] NSEG
                      times
                      ( DISTANCE (m), ELEVATION (m))=[1.78, 93.73]
                                                  [4.51, 93.54]
                                                  [5.06, 93.31]
                                                  [7.25, 92.98]
                                                  [7.79, 92.77]
                                                  [8.34, 92.49]
                                                  [9.43, 91.93]
                                                  [9.68, 91.81]
                                                  [10.53, 91.27]
                                                  [12.64, 90.92]
                                                  [14.44, 90.9]
                                                  [16.54, 91.06]
                                                  [17.64, 91.06]
                                                  [30.22, 92.3]
                                                  [31.31, 92.45]
                                                  [33.5, 92.41]
                                                  [55.37, 93.11]
                                                  [57.01, 93.2]
                                                  [84.97, 93.43]
*%-----------------|-------------------------------------------------------|
* NOTE: Cross-section number 74 is taken from HEC-RAS Model
ROUTE CHANNEL       NHYDout=["R7"], NHYDin=["Pre9_1"], RDT=[1](min),
                    CHLGTH=[159.151](m), CHSLOPE=[1.576](%), FPSLOPE=[1.576](%),
                    SECNUM=[74], NSEG=[3],
                      ( SEGROUGH, SEGDIST (m))=[0.08,4.67 -0.035,81.24 0.08,82.88] NSEG
                      times
                      ( DISTANCE (m), ELEVATION (m))=[1.94, 93.64]
                                                  [4.67, 93.32]
                                                  [5.77, 93.15]
                                                  [7.41, 92.69]
                                                  [7.95, 92.37]
                                                  [9.36, 91.71]
```

```
                                                    [10.12, 91.22]
                                                    [10.49, 91.06]
                                                    [12.64, 90.89]
                                                    [16.16, 90.92]
                                                    [18.83, 91.66]
                                                    [19.59, 92.02]
                                                    [21.62, 92.39]
                                                    [24.87, 92.48]
                                                    [30.37, 92.55]
                                                    [34.37, 92.65]
                                                    [77.41, 92.82]
                                                    [80.6, 93.25]
                                                    [81.24, 93.48]
                                                    [82.88, 93.79]
*%-----------------|-------------------------------------------------------|
ADD HYD             NHYDsum=["J6"], NHYDs to add=["R6"+"EXT10"]
*%-----------------|-------------------------------------------------------|
* NOTE: Cross-section number 49 is taken from HEC-RAS Model
ROUTE CHANNEL       NHYDout=["R8"], NHYDin=["J6"], RDT=[1](min),
                    CHLGTH=[78.801](m), CHSLOPE=[0.522](%), FPSLOPE=[0.522](%),
                    SECNUM=[49], NSEG=[3],
                      ( SEGROUGH, SEGDIST (m))=[0.08,8.71 -0.035,20.59 0.08,116.73] NSEG
                      times
                      ( DISTANCE (m), ELEVATION (m))=[0, 93.36]
                                                    [1.93, 93.63]
                                                    [4.61, 93.26]
                                                    [6.23, 93.1]
                                                    [8.19, 92.26]
                                                    [8.71, 91.84]
                                                    [9.86, 91.47]
                                                    [10.53, 91.04]
                                                    [13.84, 91]
                                                    [14.5, 91.11]
                                                    [16.97, 91.27]
                                                    [20.59, 91.76]
                                                    [23.3, 91.64]
                                                    [30.34, 91.85]
                                                    [35.29, 91.92]
                                                    [116.73, 92.96]
*%-----------------|-------------------------------------------------------|
ADD HYD             NHYDsum=["J7"], NHYDs to add=["R8"+"R7"]
*%-----------------|-------------------------------------------------------|
* NOTE: Cross-section number 7 is taken from HEC-RAS Model
ROUTE CHANNEL       NHYDout=["R9"], NHYDin=["J7"], RDT=[1](min),
                    CHLGTH=[29.445](m), CHSLOPE=[0.887](%), FPSLOPE=[0.887](%),
                    SECNUM=[7], NSEG=[3],
                      ( SEGROUGH, SEGDIST (m))=[0.08,1.5 -0.035,22.44 0.08,100.08] NSEG
                      times
                      ( DISTANCE (m), ELEVATION (m))=[0, 93.4]
                                                    [1.5, 93.63]
                                                    [3.13, 93.62]
                                                    [4.76, 93.28]
                                                    [5.3, 93.25]
                                                    [6.52, 93.08]
                                                    [6.96, 92.95]
                                                    [10.57, 90.95]
                                                    [13.59, 90.67]
                                                    [15.83, 90.72]
                                                    [16.42, 90.85]
                                                    [18.66, 91.76]
                                                    [20.82, 91.86]
                                                    [22.44, 91.92]
                                                    [27.84, 91.98]
                                                    [30.15, 91.96]
                                                    [100.08, 92.61]
*%-----------------|-------------------------------------------------------|
ADD HYD             NHYDsum=["J8"], NHYDs to add=["EXT9"+"R9"+"EXT8"+"R5"]
*%-----------------|-------------------------------------------------------|
* Note: The pipe needs to be adjusted based on the Culvert-under-railway information
```

```
ROUTE PIPE          PTYPE=[1]circ, NHYDout=["Outlet"], RNUMBER=[1.0],
                    PDIAM=[525](mm), PLNGTH=[8.407](m), PROUGH=[0.013],
                    PSLOPE=[0.0001](m/m),
                    NHYDin=["J8"], RDT=[1](min)
*%-----------------|-------------------------------------------------------|
*#########################################################################
*# STORMS
*#########################################################################
*%  2-Year, 3-Hour Chicago Storm
*START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[002]
*                   ["002YC3H.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|-------------------------------------------------------|
*%  5-Year, 3-Hour Chicago Storm
START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[005]
                   ["005YC3H.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|-------------------------------------------------------|
*%  10-Year, 3-Hour Chicago Storm
START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[010]
                   ["010YC3H.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|-------------------------------------------------------|
*%  25-Year, 3-Hour Chicago Storm
START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[025]
                   ["025YC3H.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|-------------------------------------------------------|
*%  50-Year, 3-Hour Chicago Storm
START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[050]
                   ["050YC3H.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|-------------------------------------------------------|
*%  100-Year, 3-Hour Chicago Storm
START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[099]
                   ["100YC3H.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|-------------------------------------------------------|
*%  2-Year, 24-Hour SCS Storm
START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[102]
                   ["SC24002x.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|-------------------------------------------------------|
*%  5-Year, 24-Hour SCS Storm
START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[105]
                   ["SC24005x.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|-------------------------------------------------------|
*%  10-Year, 24-Hour SCS Storm
START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[110]
                   ["SC24010x.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|-------------------------------------------------------|
*%  25-Year, 24-Hour SCS Storm
START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[125]
                   ["SC24025x.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|-------------------------------------------------------|
*%  50-Year, 24-Hour SCS Storm
START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[150]
                   ["SC24050x.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|-------------------------------------------------------|
*%  100-Year, 24-Hour SCS Storm
START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[199]
                   ["SC24100x.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|-------------------------------------------------------|
*%  July 1st, 1979 Storm - Ottawa International Airport
START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[1979]
                   ["19790701.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|-------------------------------------------------------|
*%  August 4th, 1988 Storm - Ottawa International Airport
START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[1988]
                   ["19880804.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|-------------------------------------------------------|
*%  August 8th, 1996 Storm - Ottawa International Airport
START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[1996]
                   ["19960808.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|-------------------------------------------------------|
*%  100-Year, 3-Hour Chicago Storm + 20%
```

```
START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[9999]
                   ["100YC3H+.STM"] <--storm filename, one per line for NSTORM time
*%-----------------|-------------------------------------------------------------|
FINISH
```

```
00001>  ================================================================================
00002>
00003>  SSSSS   W   W   M   M   H   H   Y   Y   M   M    OOO          222     000    11   5555   =========
00004>  S       W W W   MM MM   H   H    Y Y    MM MM   O   O          2   2   0   0  11   5
00005>  SSSSS   W W W   M M M   HHHHH     Y     M M M   O   O          2   0   0  11   5       Ver 5.500
00006>      S    W W    M   M   H   H     Y     M   M   O   O        222   0   0  11   555     FEB  2015
00007>  SSSSS    W W    M   M   H   H     Y     M   M    OOO         2     0   0  11     5     =========
00008>                                                                2     0   0  11     5     # 2549237
00009>        StormWater Management HYdrologic Model                  222     000    11   555    =========
00010>
00011>  ***************************************************************************************
00012>  ***************************************  SWMHYMO Ver 5.500  ***************************
00013>  ***************** A single event and continuous hydrologic simulation model *************
00014>  *****************       based on the principles of HYMO and its successors      *********
00015>  *****************                 OTTHYMO-83 and OTTHYMO-89.                    *********
00016>  ***************************************************************************************
00017>  ***************** Distributed by:  J.F. Sabourin and Associates Inc.          *********
00018>  *****************                 Ottawa,  Ontario: (613) 836-3884            *********
00019>  *****************                 Gatineau, Quebec: (819) 243-6858            *********
00020>  *****************                 E-Mail: swmhymo@jfsa.com                    *********
00021>  ***************************************************************************************
00022>
00023>  ***************************************************************************************
00024>  ****************** Licensed user: JFSAinc.                                  ***********
00025>  ******************                Ottawa                  SERIAL#:2549237     ***********
00026>  ***************************************************************************************
00027>
00028>  ***************************************************************************
00029>  ***************************** +++++ PROGRAM ARRAY DIMENSIONS +++++ *********
00030>  *****************             Maximum value for ID numbers  :   11  *********
00031>  *****************             Max. number of rainfall points: 105408*********
00032>  *****************             Max. number of flow points    : 105408*********
00033>  ***************************************************************************
00034>
00035>
00036>  ******************************  S U M M A R Y   O U T P U T  ******************************
00037>  ***************************************************************************************
00038>  *                      RUN DATE: 2025-09-11     TIME: 20:19:56     RUN COUNTER: 011833   *
00039>  ***************************************************************************************
00040>  * Input   file: C:\Temp\20250910-PostDev\Ott_St-Post_v11.dat                            *
00041>  * Output  file: C:\Temp\20250910-PostDev\Ott_St-Post_v11.out                            *
00042>  * Summary file: C:\Temp\20250910-PostDev\Ott_St-Post_v11.sum                            *
00043>  * User comments:                                                                       *
00044>  * 1:_____________________________________________________________________________________*
00045>  * 2:_____________________________________________________________________________________*
00046>  * 3:_____________________________________________________________________________________*
00047>  ***************************************************************************************
00048>
00049>
00050> #*************************************************************************************
00051> #  SWMHYMO  / INPUT DATA FILE
00052> #*************************************************************************************
00053> #  Project Name  : [5923 Ottawa St]
00054> #  Project Number: [P2710(e01)]
00055> #  Date          : [2025 April 28]
00056> #  Modeller      : [MM]
00057> #  Company       : JFSA Canada Inc.
00058> #  License #     : 2549237
00059> #*************************************************************************************
00060> # Model developed to simulate runoff from subcatchments under post development conditions
00061> #*************************************************************************************
00062>   ** END OF RUN :   1
00063>
00064> #*************************************************************************************
00065>
00066>
00067>
00068>
00069>
00070>  RUN#:COMMAND#
00071> R0002:c00001-------------------------------------------------------------------------------
00072>       START
00073>         [TZERO =    .00 hrs on      0]
00074>         [METOUT=  2    (1=imperial, 2=metric output)]
00075>         [NSTORM=   1 ]
00076>         [NRUN  = 0002 ]
00077> #*************************************************************************************
00078> #  SWMHYMO  / INPUT DATA FILE
00079> #*************************************************************************************
00080> #  Project Name  : [5923 Ottawa St]
00081> #  Project Number: [P2710(e01)]
00082> #  Date          : [2025 April 28]
00083> #  Modeller      : [MM]
00084> #  Company       : JFSA Canada Inc.
00085> #  License #     : 2549237
00086> #*************************************************************************************
00087> # Model developed to simulate runoff from subcatchments under post development conditions
00088> #*************************************************************************************
00089> R0002:c00002-------------------------------------------------------------------------------
00090>       READ STORM
00091>         Filename = STORM.001
00092>         Comment  = CHICAGO STORM 2 Year, 3 Hours
00093>         [SDT=10.00:SDUR=   3.00:PTOT=  31.86]
00094> #*************************************************************************************
00095> R0002:c00003-------------------------------------------------------------------------------
00096>       DEFAULT VALUES
00097>         Filename = C:\Temp\20250910-PostDev\Ottawa.val
00098>         ICASEdv  = 1 (read and print data)
00099>         FileTitle= File comment: [Parameters for City of Ottawa Projects]
00100>                  THE FOLLOWING PARAMETERS ARE USED IN THE DESIGN STANDHYD COM
00101>         Horton's infiltration equation parameters:
00102>         [Fo= 76.20 mm/hr] [Fc=13.20 mm/hr] [DCAY= 4.14 /hr] [F=  .00 mm]
00103>         Parameters for PERVIOUS surfaces in STANDHYD:
00104>         [IAper=   4.67 mm] [LGP=40.00 m] [MNP=  .250]
00105>         Parameters for IMPERVIOUS surfaces in STANDHYD:
00106>         [IAimp=   1.57 mm] [DI= 1.50]   [MNI= .013]
00107>         Parameters used in NASHYD:
00108>         [Ia=    4.67 mm] [N= 3.00]
00109>         Average monthly Pan Evaporation data in     (mm)
00110>    JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
00111>   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
00112>         Average monthly Potential Evapotranspiration in     (mm)
00113>    JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
00114>   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
00115> #*************************************************************************************
00116> # EXT1
00117> #*************************************************************************************
00118> R0002:c00004-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00119>       CALIB NASHYD             1.0 01:EXT1            3.21     .037 No_date    1:58   8.15 .256     .000
00120>         [CN= 80.0: N= 3.00: Tp=  .72]
00121> #*************************************************************************************
00122> # EXT2
00123> #*************************************************************************************
00124> R0002:c00005-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00125>       CALIB NASHYD             1.0 01:EXT2            .28     .007 No_date    1:25   10.26 .322     .000
00126>         [CN= 85.0: N= 3.00: Tp=  .33]
00127> #*************************************************************************************
00128> # EXT3
00129> #*************************************************************************************
00130> R0002:c00006-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00131>       CALIB NASHYD             1.0 01:EXT3            .56     .011 No_date    1:24   8.15 .256     .000
00132>         [CN= 80.0: N= 3.00: Tp=  .32]
00133> #*************************************************************************************
00134> # EXT4
00135> #*************************************************************************************
00136> R0002:c00007-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00137>       CALIB NASHYD             1.0 01:EXT4            .31     .006 No_date    1:22   7.80 .245     .000
00138>         [CN= 79.0: N= 3.00: Tp=  .29]
00139> #*************************************************************************************
00140> # EXT5
00141> #*************************************************************************************
00142> R0002:c00008-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00143>       CALIB NASHYD             1.0 01:EXT5            .59     .008 No_date    1:36   6.88 .216     .000
00144>         [CN= 76.0: N= 3.00: Tp=  .45]
00145> #*************************************************************************************
00146> # EXT6
00147> #*************************************************************************************
00148> R0002:c00009-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00149>       CALIB NASHYD             1.0 01:EXT6            .86     .015 No_date    1:44   10.27 .322     .000
00150>         [CN= 85.0: N= 3.00: Tp=  .56]
00151> #*************************************************************************************
00152> # EXT7
00153> #*************************************************************************************
00154> R0002:c00010-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00155>       CALIB NASHYD             1.0 01:EXT7            .47     .011 No_date    1:24   9.33 .293     .000
00156>         [CN= 83.0: N= 3.00: Tp=  .32]
00157> #*************************************************************************************
00158> # EXT8
00159> #*************************************************************************************
00160> R0002:c00011-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00161>       CALIB NASHYD             1.0 01:EXT8            .83     .013 No_date    1:33   7.81 .245     .000
00162>         [CN= 79.0: N= 3.00: Tp=  .42]
00163> #*************************************************************************************
00164> # EXT9
00165> #*************************************************************************************
00166> R0002:c00012-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00167>       CALIB NASHYD             1.0 01:EXT9            3.57     .045 No_date    1:38   6.88 .216     .000
00168>         [CN= 76.0: N= 3.00: Tp=  .48]
00169> #*************************************************************************************
00170> # EXT9a
00171> #*************************************************************************************
00172> R0002:c00013-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00173>       CALIB NASHYD             1.0 01:EXT9a           .01     .001 No_date    1:00   7.47 .234     .000
00174>         [CN= 78.0: N= 3.00: Tp=  .04]
00175> #*************************************************************************************
00176> # EXT10
00177> #*************************************************************************************
00178> R0002:c00014-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00179>       CALIB NASHYD             1.0 01:EXT10           .20     .002 No_date    1:34   5.64 .177     .000
00180>         [CN= 71.0: N= 3.00: Tp=  .42]
00181> #*************************************************************************************
00182> # Pre2_1
00183> #*************************************************************************************
00184> R0002:c00015-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00185>  *  CALIB NASHYD             1.0 01:Pre2_1          .01     .001 No_date    1:00   5.86 .184     .000
00186>         [CN= 72.0: N= 3.00: Tp=  .03]
00187> #*************************************************************************************
00188> # Pre2_2
00189> #*************************************************************************************
00190> R0002:c00016-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00191>  *  CALIB NASHYD             1.0 01:Pre2_2          .00     .000 No_date    1:00   7.46 .234     .000
00192>         [CN= 78.0: N= 3.00: Tp=  .02]
00193> #*************************************************************************************
00194> # Pre9_1
00195> #*************************************************************************************
00196> R0002:c00017-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00197>       CALIB NASHYD             1.0 01:Pre9_1          .44     .005 No_date    1:30   5.64 .177     .000
00198>         [CN= 71.0: N= 3.00: Tp=  .38]
00199> #*************************************************************************************
00200> # Pre9_2
00201> #*************************************************************************************
00202> R0002:c00018-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00203>  *  CALIB NASHYD             1.0 01:Pre9_2          .01     .000 No_date    1:00   3.62 .114     .000
00204>         [CN= 59.0: N= 3.00: Tp=  .03]
00205> #*************************************************************************************
00206> # Pre10_1
00207> #*************************************************************************************
00208> R0002:c00019-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00209>       CALIB NASHYD             1.0 01:Pre10_1         .80     .011 No_date    1:22   5.65 .177     .000
00210>         [CN= 71.0: N= 3.00: Tp=  .29]
00211> #*************************************************************************************
00212> # Pre11_1
00213> #*************************************************************************************
00214> R0002:c00020-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00215>       CALIB NASHYD             1.0 01:Pre11_1         .07     .002 No_date    1:15   7.47 .235     .000
00216>         [CN= 78.0: N= 3.00: Tp=  .21]
00217> #*************************************************************************************
00218> # Site 1
00219> #*************************************************************************************
00220> R0002:c00021-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00221>       DESIGN STANDHYD          1.0 01:S1-B1           .42     .032 No_date    1:00   13.81 .433     .000
00222>         [XIMP=.34:TIMP=.44]
00223>         [SLP=1.00:DT= 1.00]
00224>         [LOSS= 1 : HORTONS]
00225> #*************************************************************************************
00226> # Site 1 - Roof
00227> #*************************************************************************************
00228> R0002:c00022-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00229>       DESIGN STANDHYD          1.0 01:S1-Roof         .06     .014 No_date    1:00   30.00 .942     .000
00230>         [XIMP=.99:TIMP=.99]
00231>         [SLP= .50:DT= 1.00]
00232>         [LOSS= 1 : HORTONS]
00233> R0002:c00023-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00234>       ROUTE RESERVOIR ->     1.0 02:S1-Roof         .06     .014 No_date    1:00   30.00  n/a     .000
00235>                          out <=     1.0 01:S1-Roof-Ou      .06     .001 No_date    1:31   30.00  n/a     .000
00236>                      overflow <=    1.0 03:S1-Roof-Ov      .00     .000 No_date    0:00    .00  n/a     .000
00237>         (MxStoUsed=.1311E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs)
00238> R0002:c00024-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00239>       ADD HYD                  1.0 02:S1-B1           .42     .032 No_date    1:00   13.81  n/a     .000
00240>                            +     1.0 02:S1-Roof-Ou      .06     .001 No_date    1:31   30.00  n/a     .000
00241>                            +     1.0 02:S1-Roof-Ov      .00     .000 No_date    0:00    .00  n/a     .000
00242>                          SUM=    1.0 01:SITE1-IN        .48     .033 No_date    1:00   16.00  n/a     .000
00243> R0002:c00025-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00244>       ROUTE RESERVOIR ->     1.0 02:SITE1-IN        .48     .033 No_date    1:00   16.00  n/a     .000
00245>                          out <=     1.0 01:SITE1-Out       .48     .006 No_date    1:40   16.00  n/a     .000
00246>                      overflow <=    1.0 03:SITE1-Over      .00     .000 No_date    0:00    .00  n/a     .000
00247>         (MxStoUsed=.3413E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs)
00248> #*************************************************************************************
00249> # Site 2
00250> #*************************************************************************************
00251> R0002:c00026-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00252>       DESIGN STANDHYD          1.0 01:S2-B3           .35     .025 No_date    1:00   13.02 .409     .000
00253>         [XIMP=.31:TIMP=.41]
00254>         [SLP=1.00:DT= 1.00]
00255>         [LOSS= 1 : HORTONS]
00256> #*************************************************************************************
00257> # Site 2 - Roof
00258> #*************************************************************************************
00259> R0002:c00027-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00260>       DESIGN STANDHYD          1.0 01:S2-Roof         .09     .020 No_date    1:00   30.02 .942     .000
00261>         [XIMP=.99:TIMP=.99]
00262>         [SLP= .50:DT= 1.00]
00263>         [LOSS= 1 : HORTONS]
00264> #*************************************************************************************
00265> R0002:c00028-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00266>       ROUTE RESERVOIR ->     1.0 02:S2-Roof         .09     .020 No_date    1:00   30.02  n/a     .000
00267>                          out <=     1.0 02:S2-Roof-Ou      .09     .006 No_date    1:10   30.03  n/a     .000
00268>                      overflow <=    1.0 03:S2-Roof-Ov      .00     .000 No_date    0:00    .00  n/a     .000
00269>         (MxStoUsed=.1117E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs)
00270> R0002:c00029-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00271>       ADD HYD                  1.0 02:S2-B3           .35     .025 No_date    1:00   13.02  n/a     .000
00272>                            +     1.0 02:S2-Roof-Ou      .09     .006 No_date    1:10   30.03  n/a     .000
00273>                            +     1.0 02:S2-Roof-Ov      .00     .000 No_date    0:00    .00  n/a     .000
00274>                          SUM=    1.0 01:SITE2-IN        .45     .031 No_date    1:00   16.56  n/a     .000
00275> R0002:c00030-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00276>       ROUTE RESERVOIR ->     1.0 02:SITE2-IN        .45     .031 No_date    1:00   16.56  n/a     .000
00277>                          out <=     1.0 01:SITE2-Out       .45     .007 No_date    1:49   16.56  n/a     .000
00278>                      overflow <=    1.0 03:SITE2-Over      .00     .000 No_date    0:00    .00  n/a     .000
00279>         (MxStoUsed=.3806E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs)
00280> R0002:c00031-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00281>       ADD HYD                  1.0 02:SITE1-Out       .48     .006 No_date    1:40   16.00  n/a     .000
00282>                            +     1.0 02:SITE1-Over      .00     .000 No_date    0:00    .00  n/a     .000
00283>                          SUM=    1.0 01:Site1           .48     .006 No_date    1:40   16.00  n/a     .000
00284> R0002:c00032-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00285>       ADD HYD                  1.0 02:SITE2-Out       .45     .007 No_date    1:49   16.56  n/a     .000
00286>                            +     1.0 02:SITE2-Over      .00     .000 No_date    0:00    .00  n/a     .000
00287>                          SUM=    1.0 01:Site2           .45     .007 No_date    1:49   16.56  n/a     .000
00288> R0002:c00033-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00289>       ADD HYD                  1.0 02:EXT2            .28     .007 No_date    1:25   10.26  n/a     .000
00290>                            +     1.0 02:Pre2_1          .01     .001 No_date    1:00    5.86  n/a     .000
00291>                            +     1.0 02:Site1           .48     .006 No_date    1:40   16.00  n/a     .000
00292>                            +     1.0 02:Site2           .45     .007 No_date    1:49   16.56  n/a     .000
00293>                          SUM=    1.0 01:J1             1.23     .019 No_date    1:27   14.76  n/a     .000
00294> R0002:c00034-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00295>       ROUTE CHANNEL    ->     1.0 02:J1             1.23     .019 No_date    1:27   14.76  n/a     .000
00296>         [RDT= 1.00] out<-     1.0 01:R1             1.23     .019 No_date    1:36   14.76  n/a     .000
00297>          [L/S/n=  143./ .394/.035]
00298>          [Vmax=   .258:Dmax=   .093]
00299> R0002:c00035-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00300>       ADD HYD                  1.0 02:R1              1.23     .019 No_date    1:36   14.76  n/a     .000
00301>                            +     1.0 02:EXT3            .56     .011 No_date    1:24    8.15  n/a     .000
00302>                            +     1.0 02:EXT1            3.21     .037 No_date    1:58    8.15  n/a     .000
00303>                          SUM=    1.0 01:J2              5.00     .062 No_date    1:46    9.77  n/a     .000
00304> R0002:c00036-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00305>       ROUTE CHANNEL    ->     1.0 02:J2              5.00     .062 No_date    1:46    9.77  n/a     .000
00306>         [RDT= 1.00] out<-     1.0 01:R2              5.00     .062 No_date    1:49    9.77  n/a     .000
00307>          [L/S/n=   73./ .425/.035]
00308>          [Vmax=   .359:Dmax=   .160]
00309> R0002:c00037-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00310>       ADD HYD                  1.0 02:R2              5.00     .062 No_date    1:49    9.77  n/a     .000
00311>                            +     1.0 02:EXT4            .31     .006 No_date    1:22    7.80  n/a     .000
00312>                          SUM=    1.0 01:J3              5.31     .066 No_date    1:46    9.66  n/a     .000
00313> R0002:c00038-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00314>       ROUTE CHANNEL    ->     1.0 02:J3              5.31     .066 No_date    1:46    9.66  n/a     .000
00315>         [RDT= 1.00] out<-     1.0 01:R3              5.31     .065 No_date    1:51    9.66  n/a     .000
00316>          [L/S/n=   92./ .274/.035]
00317>          [Vmax=   .294:Dmax=   .165]
00318> R0002:c00039-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00319>       ADD HYD                  1.0 02:R3              5.31     .065 No_date    1:51    9.66  n/a     .000
00320>                            +     1.0 02:EXT5            .59     .008 No_date    1:36    6.88  n/a     .000
00321>                          SUM=    1.0 01:J4              5.90     .072 No_date    1:49    9.38  n/a     .000
00322> R0002:c00040-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00323>       ROUTE CHANNEL    ->     1.0 02:J4              5.90     .072 No_date    1:49    9.38  n/a     .000
00324>         [RDT= 1.00] out<-     1.0 01:R4              5.90     .067 No_date    2:05    9.38  n/a     .000
00325>          [L/S/n=  251./ .190/.035]
00326>          [Vmax=   .273:Dmax=   .178]
00327> R0002:c00041-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00328>       ADD HYD                  1.0 02:R4              5.90     .067 No_date    2:05    9.38  n/a     .000
00329>                            +     1.0 02:EXT6            .86     .015 No_date    1:44   10.27  n/a     .000
00330>                            +     1.0 02:EXT7            .47     .011 No_date    1:24    9.33  n/a     .000
00331>                          SUM=    1.0 01:J5              7.23     .086 No_date    1:58    9.48  n/a     .000
00332> R0002:c00042-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00333>       ROUTE CHANNEL    ->     1.0 02:J5              7.23     .086 No_date    1:58    9.48  n/a     .000
00334>         [RDT= 1.00] out<-     1.0 01:R5              7.23     .084 No_date    2:05    9.48  n/a     .000
00335>          [L/S/n=  237./ .644/.035]
00336>          [Vmax=   .444:Dmax=   .172]
00337> R0002:c00043-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00338>       ADD HYD                  1.0 02:Pre10_1         .80     .011 No_date    1:22    5.65  n/a     .000
00339>                            +     1.0 02:Pre9_2          .01     .000 No_date    1:00    3.62  n/a     .000
00340>                            +     1.0 02:Pre2_2          .00     .000 No_date    1:00    7.46  n/a     .000
00341>                          SUM=    1.0 01:Pre             .81     .011 No_date    1:22    5.62  n/a     .000
00342> R0002:c00044-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00343>       ROUTE CHANNEL    ->     1.0 02:Pre             .81     .011 No_date    1:22    5.62  n/a     .000
00344>         [RDT= 1.00] out<-     1.0 01:R6              .81     .011 No_date    1:25    5.62  n/a     .000
00345>          [L/S/n=   77./ .776/.035]
00346>          [Vmax=   .492:Dmax=   .008]
00347> R0002:c00045-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00348>       ROUTE CHANNEL    ->     1.0 02:Pre9_1          .44     .005 No_date    1:30    5.64  n/a     .000
00349>         [RDT= 1.00] out<-     1.0 01:R7              .44     .005 No_date    1:34    5.64  n/a     .000
00350>          [L/S/n=  159./1.576/.035]
00351>          [Vmax=   .797:Dmax=   .002]
00352> R0002:c00046-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00353>       ADD HYD                  1.0 02:R6              .81     .021 No_date    4:19    5.77  n/a     .000
00354>                            +     1.0 02:EXT10           .20     .002 No_date    1:34    5.64  n/a     .000
00355>                          SUM=    1.0 01:J6              1.02     .021 No_date    4:19    5.75  n/a     .000
00356> R0002:c00047-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00357>       ROUTE CHANNEL    ->     1.0 02:J6              1.02     .021 No_date    4:19    5.75  n/a     .000
00358>         [RDT= 1.00] out<-     1.0 01:R8              1.02     .013 No_date    1:30    5.75  n/a     .000
00359>          [L/S/n=   79./ .522/.035]
00360>          [Vmax=   .423:Dmax=   .016]
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00361> R0002:C00048------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00362>     ADD HYD                 1.0 02:R8          1.02     .016 No_date    4:41    5.84  n/a     .000
00363>                        +    1.0 02:R7           .44     .017 No_date    4:37    5.87  n/a     .000
00364>                    SUM=     1.0 01:J7          1.46     .018 No_date    1:31    5.85  n/a     .000
00365> R0002:C00049------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00366>     ROUTE CHANNEL   ->     1.0 02:J7          1.46     .018 No_date    1:31    5.85  n/a     .000
00367>       [RDT= 1.00] out<-    1.0 01:R9          1.46     .018 No_date    1:32    5.85  n/a     .000
00368>        [L/S/n=  29./ .887/.035]
00369>        [Vmax=  .543:Dmax=  .012]
00370> R0002:C00050------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00371>     ADD HYD                 1.0 02:EXT9        3.57     .045 No_date    1:38    6.88  n/a     .000
00372>                        +    1.0 02:R9          1.46     .018 No_date    1:32    5.91  n/a     .000
00373>                        +    1.0 02:EXT8         .83     .013 No_date    1:33    7.81  n/a     .000
00374>                        +    1.0 02:R5          7.23     .084 No_date    2:05    9.48  n/a     .000
00375>                    SUM=     1.0 01:J8         13.09     .146 No_date    1:52    8.27  n/a     .000
00376> R0002:C00051------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00377>     ROUTE PIPE      ->     1.0 02:J8         13.09     .146 No_date    1:52    8.27  n/a     .000
00378> *   [RDT= 1.00] out<-    1.0 01:Outlet      13.09     .146 No_date    1:53    8.27  n/a     .000
00379>        [L/S/n=   8./ .010/.013]
00380>        [Vmax=  .307:Dmax=  .681]
00381>        [Din=  .53:Dused=  .83)
00382> ##############################################################################
00383> # STORMS
00384> ##############################################################################
00385>   ** END OF RUN :    4
00386>
00387> ******************************************************************************
00388>
00389>
00390>
00391>
00392>
00393>  RUN#:COMMAND#
00394> R0005:C00001-------------------------------------------------------------------------------
00395>       START
00396>        [TZERO =    .00 hrs on        0]
00397>        [METOUT=  2    (1=imperial, 2=metric output)]
00398>        [NSTORM=  1 ]
00399>        [NRUN   = 0005 ]
00400> ******************************************************************************
00401> #  SWMHYMO  / INPUT DATA FILE
00402> ******************************************************************************
00403> #  Project Name  : [5923 Ottawa St]
00404> #  Project Number: [P2710(e01)]
00405> #  Date          : [2025 April 28]
00406> #  Modeller      : [MM]
00407> #  Company       : JFSA Canada Inc.
00408> #  License #     : 2549237
00409> ******************************************************************************
00410> # Model developed to simulate runoff from subcatchments under post development conditions
00411> ******************************************************************************
00412> R0005:C00002-------------------------------------------------------------------------------
00413>       READ STORM
00414>        Filename = STORM.001
00415>        Comment  = CHICAGO STORM  5 Year, 3 Hours
00416>        [SDT=10.00:SDUR=   3.00:PTOT=  42.51]
00417> ******************************************************************************
00418> R0005:C00003-------------------------------------------------------------------------------
00419>       DEFAULT VALUES
00420>        Filename = C:\Temp\20250910-PostDev\Ottawa.val
00421>        ICASEDY  = 1 (read and print data)
00422>        FileTitle= File comment: [Parameters for City of Ottawa Projects]
00423>                   THE FOLLOWING PARAMETERS ARE USED IN THE DESIGN STANDHYD COM
00424>        Horton's infiltration equation parameters:
00425>        [Fo= 76.20 mm/hr] [Fc=13.20 mm/hr] [DCAY= 4.14 /hr] [F=  .00 mm]
00426>        Parameters for PERVIOUS surfaces in STANDHYD:
00427>        [IAper=   4.67 mm] [LGP=40.00 m] [MNP= .250]
00428>        Parameters for IMPERVIOUS surfaces in STANDHYD:
00429>        [IAimp=   1.57 mm] [CLI= 1.50]   [MNI= .013]
00430>        Parameters used in NASHYD:
00431>        [Ia=   4.67 mm] [N= 3.00]
00432>        Average monthly Pan Evaporation data in    (mm)
00433>     JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
00434>    .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
00435>        Average monthly Potential Evapotranspiration in    (mm)
00436>     JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
00437>    .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
00438> ******************************************************************************
00439> # EXT1
00440> ******************************************************************************
00441> R0005:C00004-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00442>     CALIB NASHYD            1.0 01:EXT1        3.21     .066 No_date    1:55   14.13 .332     .000
00443>       [CN= 80.0: N= 3.00: Tp=  .72]
00444> ******************************************************************************
00445> # EXT2
00446> ******************************************************************************
00447> R0005:C00005-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00448>     CALIB NASHYD            1.0 01:EXT2         .28     .012 No_date    1:23   17.32 .407     .000
00449>       [CN= 85.0: N= 3.00: Tp=  .33]
00450> ******************************************************************************
00451> # EXT3
00452> ******************************************************************************
00453> R0005:C00006-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00454>     CALIB NASHYD            1.0 01:EXT3         .56     .020 No_date    1:23   14.13 .332     .000
00455>       [CN= 80.0: N= 3.00: Tp=  .32]
00456> ******************************************************************************
00457> # EXT4
00458> ******************************************************************************
00459> R0005:C00007-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00460>     CALIB NASHYD            1.0 01:EXT4         .31     .011 No_date    1:21   13.59 .320     .000
00461>       [CN= 79.0: N= 3.00: Tp=  .29]
00462> ******************************************************************************
00463> # EXT5
00464> ******************************************************************************
00465> R0005:C00008-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00466>     CALIB NASHYD            1.0 01:EXT5         .59     .014 No_date    1:34   12.13 .285     .000
00467>       [CN= 76.0: N= 3.00: Tp=  .45]
00468> ******************************************************************************
00469> # EXT6
00470> ******************************************************************************
00471> R0005:C00009-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00472>     CALIB NASHYD            1.0 01:EXT6         .86     .026 No_date    1:42   17.32 .407     .000
00473>       [CN= 85.0: N= 3.00: Tp=  .56]
00474> ******************************************************************************
00475> # EXT7
00476> ******************************************************************************
00477> R0005:C00010-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00478>     CALIB NASHYD            1.0 01:EXT7         .47     .019 No_date    1:23   15.94 .375     .000
00479>       [CN= 83.0: N= 3.00: Tp=  .32]
00480> ******************************************************************************
00481> # EXT8
00482> ******************************************************************************
00483> R0005:C00011-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00484>     CALIB NASHYD            1.0 01:EXT8         .83     .024 No_date    1:31   13.59 .320     .000
00485>       [CN= 79.0: N= 3.00: Tp=  .42]
00486> ******************************************************************************
00487> # EXT9
00488> ******************************************************************************
00489> R0005:C00012-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00490>     CALIB NASHYD            1.0 01:EXT9        3.57     .083 No_date    1:36   12.13 .285     .000
00491>       [CN= 76.0: N= 3.00: Tp=  .48]
00492> ******************************************************************************
00493> # EXT9a
00494> ******************************************************************************
00495> R0005:C00013-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00496>     CALIB NASHYD            1.0 01:EXT9a        .01     .001 No_date    1:00   13.07 .307     .000
00497>       [CN= 78.0: N= 3.00: Tp=  .04]
00498> ******************************************************************************
00499> # EXT10
00500> ******************************************************************************
00501> R0005:C00014-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00502>     CALIB NASHYD            1.0 01:EXT10        .20     .004 No_date    1:32   10.11 .238     .000
00503>       [CN= 71.0: N= 3.00: Tp=  .42]
00504> ******************************************************************************
00505> # Pre2_1
00506> ******************************************************************************
00507> R0005:C00015-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00508> *   CALIB NASHYD            1.0 01:Pre2_1       .01     .001 No_date    1:00   10.48 .246     .000
00509>       [CN= 72.0: N= 3.00: Tp=  .03]
00510> ******************************************************************************
00511> # Pre2_2
00512> ******************************************************************************
00513> R0005:C00016-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00514> *   CALIB NASHYD            1.0 01:Pre2_2       .00     .000 No_date    1:00   13.06 .307     .000
00515>       [CN= 78.0: N= 3.00: Tp=  .02]
00516> ******************************************************************************
00517> # Pre9_1
00518> ******************************************************************************
00519> R0005:C00017-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00520>     CALIB NASHYD            1.0 01:Pre9_1       .44     .010 No_date    1:29   10.11 .238     .000
00521>       [CN= 71.0: N= 3.00: Tp=  .38]
00522> ******************************************************************************
00523> # Pre9_2
00524> ******************************************************************************
00525> R0005:C00018-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00526> *   CALIB NASHYD            1.0 01:Pre9_2       .01     .001 No_date    1:00    6.67 .157     .000
00527>       [CN= 59.0: N= 3.00: Tp=  .03]
00528> ******************************************************************************
00529> # Pre10_1
00530> ******************************************************************************
00531> R0005:C00019-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00532>     CALIB NASHYD            1.0 01:Pre10_1      .80     .021 No_date    1:21   10.11 .238     .000
00533>       [CN= 71.0: N= 3.00: Tp=  .29]
00534> ******************************************************************************
00535> # Pre11_1
00536> ******************************************************************************
00537> R0005:C00020-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00538>     CALIB NASHYD            1.0 01:Pre11_1      .07     .003 No_date    1:14   13.07 .308     .000
00539>       [CN= 78.0: N= 3.00: Tp=  .21]
00540> ******************************************************************************
00541> # Site 1
00542> ******************************************************************************
00543> R0005:C00021-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00544>     DESIGN STANDHYD         1.0 01:S1-B1        .42     .053 No_date    1:00   21.70 .510     .000
00545>       [XIMP=.34:TIMP=.44]
00546>       [SLP=1.00:DT= 1.00]
00547>       [LOSS= 1 : HORTONS]
00548> ******************************************************************************
00549> # Site 1 - Roof
00550> ******************************************************************************
00551> R0005:C00022-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00552>     DESIGN STANDHYD         1.0 01:S1-Roof      .06     .019 No_date    1:00   40.62 .955     .000
00553>       [XIMP=.99:TIMP=.99]
00554>       [SLP= .50:DT= 1.00]
00555>       [LOSS= 1 : HORTONS]
00556> R0005:C00023-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00557>     ROUTE RESERVOIR ->      1.0 02:S1-Roof      .06     .019 No_date    1:00   40.62  n/a     .000
00558>                       out <=    1.0 01:S1-Roof-Ou     .06     .002 No_date    1:30   40.61  n/a     .000
00559>                   overflow <=   1.0 03:S1-Roof-Ov     .00     .000 No_date    0:00    .00  n/a     .000
00560>       (MxStOUsed=.1771E-02  m3, TotOvrFVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs)
00561> R0005:C00024-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00562>     ADD HYD                 1.0 02:S1-B1        .42     .053 No_date    1:00   21.70  n/a     .000
00563>                        +    1.0 02:S1-Roof-Ou     .06     .002 No_date    1:30   40.61  n/a     .000
00564>                        +    1.0 02:S1-Roof-Ov     .00     .000 No_date    0:00    .00  n/a     .000
00565>                    SUM=     1.0 01:SITE1-IN     .48     .054 No_date    1:00   24.26  n/a     .000
00566> R0005:C00025-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00567>     ROUTE RESERVOIR ->      1.0 02:SITE1-IN     .48     .054 No_date    1:00   24.26  n/a     .000
00568>                       out <=    1.0 01:SITE1-Out    .48     .007 No_date    1:42   24.26  n/a     .000
00569>                   overflow <=   1.0 03:SITE1-Over    .00     .000 No_date    0:00    .00  n/a     .000
00570>       (MxStOUsed=.6381E-02  m3, TotOvrFVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs)
00571> ******************************************************************************
00572> # Site 2
00573> ******************************************************************************
00574> R0005:C00026-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00575>     DESIGN STANDHYD         1.0 01:S2-B3        .35     .042 No_date    1:00   20.76 .488     .000
00576>       [XIMP=.31:TIMP=.41]
00577>       [SLP=1.00:DT= 1.00]
00578>       [LOSS= 1 : HORTONS]
00579> ******************************************************************************
00580> # Site 2 - Roof
00581> ******************************************************************************
00582> R0005:C00027-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00583>     DESIGN STANDHYD         1.0 01:S2-Roof      .09     .027 No_date    1:00   40.61 .955     .000
00584>       [XIMP=.99:TIMP=.99]
00585>       [SLP= .50:DT= 1.00]
00586>       [LOSS= 1 : HORTONS]
00587> ******************************************************************************
00588> R0005:C00028-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00589>     ROUTE RESERVOIR ->      1.0 02:S2-Roof      .09     .027 No_date    1:00   40.61  n/a     .000
00590>                       out <=    1.0 01:S2-Roof-Ou     .09     .007 No_date    1:11   40.63  n/a     .000
00591>                   overflow <=   1.0 03:S2-Roof-Ov     .00     .000 No_date    0:00    .00  n/a     .000
00592>       (MxStOUsed=.1653E-02  m3, TotOvrFVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs)
00593> R0005:C00029-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00594>     ADD HYD                 1.0 02:S2-B3        .35     .042 No_date    1:00   20.76  n/a     .000
00595>                        +    1.0 02:S2-Roof-Ou     .09     .007 No_date    1:11   40.63  n/a     .000
00596>                        +    1.0 02:S2-Roof-Ov     .00     .000 No_date    0:00    .00  n/a     .000
00597>                    SUM=     1.0 01:SITE2-IN     .45     .049 No_date    1:00   24.89  n/a     .000
00598> R0005:C00030-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00599>     ROUTE RESERVOIR ->      1.0 02:SITE2-IN     .45     .049 No_date    1:00   24.89  n/a     .000
00600>                       out <=    1.0 01:SITE2-Out    .45     .008 No_date    1:52   24.89  n/a     .000
00601>                   overflow <=   1.0 03:SITE2-Over    .00     .000 No_date    0:00    .00  n/a     .000
00602>       (MxStOUsed=.6481E-02  m3, TotOvrFVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs)
00603> R0005:C00031-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00604>     ADD HYD                 1.0 02:SITE1-Out    .48     .007 No_date    1:42   24.26  n/a     .000
00605>                        +    1.0 02:SITE1-Over   .00     .000 No_date    0:00    .00  n/a     .000
00606>                    SUM=     1.0 01:Site1        .48     .007 No_date    1:42   24.26  n/a     .000
00607> R0005:C00032-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00608>     ADD HYD                 1.0 02:SITE2-Out    .45     .008 No_date    1:52   24.89  n/a     .000
00609>                        +    1.0 02:SITE2-Over   .00     .000 No_date    0:00    .00  n/a     .000
00610>                    SUM=     1.0 01:Site2        .45     .008 No_date    1:52   24.89  n/a     .000
00611> R0005:C00033-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00612>     ADD HYD                 1.0 02:EXT2         .28     .012 No_date    1:23   17.32  n/a     .000
00613>                        +    1.0 02:Pre2_1       .01     .001 No_date    1:00   10.48  n/a     .000
00614>                        +    1.0 02:Site1        .48     .007 No_date    1:42   24.26  n/a     .000
00615>                        +    1.0 02:Site2        .45     .008 No_date    1:52   24.89  n/a     .000
00616>                    SUM=     1.0 01:J1          1.23     .027 No_date    1:24   22.73  n/a     .000
00617> R0005:C00034-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00618>     ROUTE CHANNEL   ->      1.0 02:J1          1.23     .027 No_date    1:24   22.73  n/a     .000
00619>       [RDT= 1.00] out<-     1.0 01:R1          1.23     .026 No_date    1:31   22.73  n/a     .000
00620>        [L/S/n=  143./ .394/.035]
00621>        [Vmax=  .293:Dmax=  .110]
00622> R0005:C00035-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00623>     ADD HYD                 1.0 02:R1          1.23     .026 No_date    1:31   22.73  n/a     .000
00624>                        +    1.0 02:EXT3         .56     .020 No_date    1:23   14.13  n/a     .000
00625>                        +    1.0 02:EXT1        3.21     .066 No_date    1:55   14.13  n/a     .000
00626>                    SUM=     1.0 01:J2          5.00     .102 No_date    1:44   16.24  n/a     .000
00627> R0005:C00036-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00628>     ROUTE CHANNEL   ->      1.0 02:J2          5.00     .102 No_date    1:44   16.24  n/a     .000
00629>       [RDT= 1.00] out<-     1.0 01:R2          5.00     .102 No_date    1:46   16.24  n/a     .000
00630>        [L/S/n=   73./ .425/.035]
00631>        [Vmax=  .413:Dmax=  .196]
00632> R0005:C00037-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00633>     ADD HYD                 1.0 02:R2          5.00     .102 No_date    1:46   16.24  n/a     .000
00634>                        +    1.0 02:EXT4         .31     .011 No_date    1:21   13.59  n/a     .000
00635>                    SUM=     1.0 01:J3          5.31     .109 No_date    1:42   16.09  n/a     .000
00636> R0005:C00038-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00637>     ROUTE CHANNEL   ->      1.0 02:J3          5.31     .109 No_date    1:42   16.09  n/a     .000
00638>       [RDT= 1.00] out<-     1.0 01:R3          5.31     .108 No_date    1:47   16.09  n/a     .000
00639>        [L/S/n=   92./ .274/.035]
00640>        [Vmax=  .338:Dmax=  .203]
00641> R0005:C00039-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00642>     ADD HYD                 1.0 02:R3          5.31     .108 No_date    1:47   16.09  n/a     .000
00643>                        +    1.0 02:EXT5         .59     .014 No_date    1:34   12.13  n/a     .000
00644>                    SUM=     1.0 01:J4          5.90     .122 No_date    1:45   15.69  n/a     .000
00645> R0005:C00040-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00646>     ROUTE CHANNEL   ->      1.0 02:J4          5.90     .122 No_date    1:45   15.69  n/a     .000
00647>       [RDT= 1.00] out<-     1.0 01:R4          5.90     .114 No_date    1:58   15.69  n/a     .000
00648>        [L/S/n=  251./ .190/.035]
00649>        [Vmax=  .323:Dmax=  .222]
00650> R0005:C00041-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00651>     ADD HYD                 1.0 02:R4          5.90     .114 No_date    1:58   15.69  n/a     .000
00652>                        +    1.0 02:EXT6         .86     .026 No_date    1:42   17.32  n/a     .000
00653>                        +    1.0 02:EXT7         .47     .019 No_date    1:23   15.94  n/a     .000
00654>                    SUM=     1.0 01:J5          7.23     .149 No_date    1:52   15.90  n/a     .000
00655> R0005:C00042-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00656>     ROUTE CHANNEL   ->      1.0 02:J5          7.23     .149 No_date    1:52   15.90  n/a     .000
00657>       [RDT= 1.00] out<-     1.0 01:R5          7.23     .146 No_date    1:59   15.90  n/a     .000
00658>        [L/S/n=  237./ .644/.035]
00659>        [Vmax=  .521:Dmax=  .211]
00660> R0005:C00043-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00661>     ADD HYD                 1.0 02:Pre10_1      .80     .021 No_date    1:21   10.11  n/a     .000
00662>                        +    1.0 02:Pre9_2       .01     .001 No_date    1:00    6.67  n/a     .000
00663>                        +    1.0 02:Pre2_2       .00     .000 No_date    1:00   13.06  n/a     .000
00664>                    SUM=     1.0 01:Pre          .81     .021 No_date    1:21   10.06  n/a     .000
00665> R0005:C00044-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00666>     ROUTE CHANNEL   ->      1.0 02:Pre          .81     .021 No_date    1:21   10.06  n/a     .000
00667>       [RDT= 1.00] out<-     1.0 01:R6          .81     .021 No_date    1:24   10.06  n/a     .000
00668>        [L/S/n=   77./ .776/.035]
00669>        [Vmax=  .492:Dmax=  .016]
00670> R0005:C00045-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00671>     ROUTE CHANNEL   ->      1.0 02:Pre9_1       .44     .010 No_date    1:29   10.11  n/a     .000
00672>       [RDT= 1.00] out<-     1.0 01:R7          .44     .010 No_date    1:32   10.11  n/a     .000
00673>        [L/S/n=  159./1.576/.035]
00674>        [Vmax=  .797:Dmax=  .003]
00675> R0005:C00046-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00676>     ADD HYD                 1.0 02:R6          .81     .028 No_date    4:24   10.27  n/a     .000
00677>                        +    1.0 02:EXT10        .20     .004 No_date    1:32   10.11  n/a     .000
00678>                    SUM=     1.0 01:J6          1.02     .028 No_date    4:24   10.24  n/a     .000
00679> R0005:C00047-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00680>     ROUTE CHANNEL   ->      1.0 02:J6          1.02     .028 No_date    4:24   10.24  n/a     .000
00681>       [RDT= 1.00] out<-     1.0 01:R8          1.02     .025 No_date    1:28   10.24  n/a     .000
00682>        [L/S/n=   79./ .522/.035]
00683>        [Vmax=  .423:Dmax=  .021]
00684> R0005:C00048-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00685>     ADD HYD                 1.0 02:R8          1.02     .025 No_date    1:28   10.36  n/a     .000
00686>                        +    1.0 02:R7           .44     .022 No_date    4:43   10.41  n/a     .000
00687>                    SUM=     1.0 01:J7          1.46     .034 No_date    1:29   10.38  n/a     .000
00688> R0005:C00049-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00689>     ROUTE CHANNEL   ->      1.0 02:J7          1.46     .034 No_date    1:29   10.38  n/a     .000
00690>       [RDT= 1.00] out<-     1.0 01:R9          1.46     .034 No_date    1:30   10.38  n/a     .000
00691>        [L/S/n=   29./ .887/.035]
00692>        [Vmax=  .543:Dmax=  .023]
00693> R0005:C00050-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00694>     ADD HYD                 1.0 02:EXT9        3.57     .083 No_date    1:36   12.13  n/a     .000
00695>                        +    1.0 02:R9          1.46     .034 No_date    1:30   10.46  n/a     .000
00696>                        +    1.0 02:EXT8         .83     .024 No_date    1:31   13.59  n/a     .000
00697>                        +    1.0 02:R5          7.23     .146 No_date    1:59   15.90  n/a     .000
00698>                    SUM=     1.0 01:J8         13.09     .265 No_date    1:47   14.12  n/a     .000
00699> R0005:C00051-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00700>     ROUTE PIPE      ->      1.0 02:J8         13.09     .265 No_date    1:47   14.12  n/a     .000
00701> *   [RDT= 1.00] out<-     1.0 01:Outlet      13.09     .263 No_date    1:50   14.12  n/a     .000
00702>        [L/S/n=   8./ .010/.013]
00703>        [Vmax=  .357:Dmax=  .851]
00704>        [Din=  .53:Dused= 1.04)
00705> ##############################################################################
00706> # STORMS
00707> ##############################################################################
00708>   ** END OF RUN :    9
00709>
00710> ******************************************************************************
00711>
00712>
00713>
00714>
00715>
00716>  RUN#:COMMAND#
00717> R0010:C00001-------------------------------------------------------------------------------
00718>       START
00719>        [TZERO =    .00 hrs on        0]
00720>        [METOUT=  2    (1=imperial, 2=metric output)]
```

```
00721>       [NSTORM=   1 ]
00722>       [NRUN  = 0010 ]
00723> #*******************************************************************************
00724> #  SWMHYMO  / INPUT DATA FILE
00725> #*******************************************************************************
00726> #  Project Name  : [5923 Ottawa St]
00727> #  Project Number: [P2710(e01)]
00728> #  Date          : [2025 April 28]
00729> #  Modeller      : [MM]
00730> #  Company       : JFSA Canada Inc.
00731> #  License #     : 2549237
00732> #*******************************************************************************
00733> # Model developed to simulate runoff from subcatchments under post development conditions
00734> #*******************************************************************************
00735> R0010:C00002-----------------------------------------------------------------------
00736>       READ STORM
00737>         Filename = STORM.001
00738>         Comment  = CHICAGO STORM 10 Year, 3 Hours
00739>         [SDT=10.00:SDUR=   3.00:PTOT=  49.50]
00740> #*******************************************************************************
00741> R0010:C00003-----------------------------------------------------------------------
00742>       DEFAULT VALUES
00743>         Filename = C:\Temp\20250910-PostDev\Ottawa.val
00744>         ICASEdv  = 1 (read and print data)
00745>         FileTitle= File comment: [Parameters for City of Ottawa Projects]
00746>                    THE FOLLOWING PARAMETERS ARE USED IN THE DESIGN STANDHYD COM
00747>         Horton's infiltration equation parameters:
00748>         [Fo= 76.20 mm/hr] [Fc=13.20 mm/hr] [DCAY= 4.14 /hr] [F=  .00 mm]
00749>         Parameters for PERVIOUS surfaces in STANDHYD:
00750>         [IAper=   4.67 mm] [LGP=40.00 m] [MNP= .250]
00751>         Parameters for IMPERVIOUS surfaces in STANDHYD:
00752>         [IAimp=   1.57 mm] [CLI= 1.50]   [MNI= .013]
00753>         Parameters used in NASHYD:
00754>         [Ia=   4.67 mm] [N= 3.00]
00755>         Average monthly Pan Evaporation data in     (mm)
00756>       JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
00757>      .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
00758>         Average monthly Potential Evapotranspiration in     (mm)
00759>       JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
00760>      .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
00761> #*******************************************************************************
00762> # EXT1
00763> #*******************************************************************************
00764> R0010:C00004-----------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFCms
00765>       CALIB NASHYD           1.0 01:EXT1          3.21     .088 No_date    1:54   18.55 .375     .000
00766>         [CN= 80.0: N= 3.00: Tp=  .72]
00767> #*******************************************************************************
00768> # EXT2
00769> #*******************************************************************************
00770> R0010:C00005-----------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFCms
00771>       CALIB NASHYD           1.0 01:EXT2          .28     .016 No_date    1:23   22.42 .453     .000
00772>         [CN= 85.0: N= 3.00: Tp=  .33]
00773> #*******************************************************************************
00774> # EXT3
00775> #*******************************************************************************
00776> R0010:C00006-----------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFCms
00777>       CALIB NASHYD           1.0 01:EXT3          .56     .027 No_date    1:23   18.55 .375     .000
00778>         [CN= 80.0: N= 3.00: Tp=  .32]
00779> #*******************************************************************************
00780> # EXT4
00781> #*******************************************************************************
00782> R0010:C00007-----------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFCms
00783>       CALIB NASHYD           1.0 01:EXT4          .31     .015 No_date    1:20   17.89 .361     .000
00784>         [CN= 79.0: N= 3.00: Tp=  .29]
00785> #*******************************************************************************
00786> # EXT5
00787> #*******************************************************************************
00788> R0010:C00008-----------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFCms
00789>       CALIB NASHYD           1.0 01:EXT5          .59     .019 No_date    1:33   16.07 .325     .000
00790>         [CN= 76.0: N= 3.00: Tp=  .45]
00791> #*******************************************************************************
00792> # EXT6
00793> #*******************************************************************************
00794> R0010:C00009-----------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFCms
00795>       CALIB NASHYD           1.0 01:EXT6          .86     .035 No_date    1:41   22.42 .453     .000
00796>         [CN= 85.0: N= 3.00: Tp=  .56]
00797> #*******************************************************************************
00798> # EXT7
00799> #*******************************************************************************
00800> R0010:C00010-----------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFCms
00801>       CALIB NASHYD           1.0 01:EXT7          .47     .025 No_date    1:22   20.75 .419     .000
00802>         [CN= 83.0: N= 3.00: Tp=  .32]
00803> #*******************************************************************************
00804> # EXT8
00805> #*******************************************************************************
00806> R0010:C00011-----------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFCms
00807>       CALIB NASHYD           1.0 01:EXT8          .83     .032 No_date    1:31   17.89 .361     .000
00808>         [CN= 79.0: N= 3.00: Tp=  .42]
00809> #*******************************************************************************
00810> # EXT9
00811> #*******************************************************************************
00812> R0010:C00012-----------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFCms
00813>       CALIB NASHYD           1.0 01:EXT9         3.57     .111 No_date    1:36   16.08 .325     .000
00814>         [CN= 76.0: N= 3.00: Tp=  .48]
00815> #*******************************************************************************
00816> # EXT9a
00817> #*******************************************************************************
00818> R0010:C00013-----------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFCms
00819>       CALIB NASHYD           1.0 01:EXT9a         .01     .001 No_date    1:00   17.25 .348     .000
00820>         [CN= 78.0: N= 3.00: Tp=  .04]
00821> #*******************************************************************************
00822> # EXT10
00823> #*******************************************************************************
00824> R0010:C00014-----------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFCms
00825>       CALIB NASHYD           1.0 01:EXT10         .20     .006 No_date    1:31   13.53 .273     .000
00826>         [CN= 71.0: N= 3.00: Tp=  .42]
00827> #*******************************************************************************
00828> # Pre2_1
00829> #*******************************************************************************
00830> R0010:C00015-----------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFCms
00831> *     CALIB NASHYD           1.0 01:Pre2_1        .01     .001 No_date    1:00   13.99 .283     .000
00832>         [CN= 72.0: N= 3.00: Tp=  .03]
00833> #*******************************************************************************
00834> # Pre2_2
00835> #*******************************************************************************
00836> R0010:C00016-----------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFCms
00837> *     CALIB NASHYD           1.0 01:Pre2_2        .00     .000 No_date    1:00   17.23 .348     .000
00838>         [CN= 78.0: N= 3.00: Tp=  .02]
00839> #*******************************************************************************
00840> # Pre9_1
00841> #*******************************************************************************
00842> R0010:C00017-----------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFCms
00843>       CALIB NASHYD           1.0 01:Pre9_1        .44     .013 No_date    1:28   13.53 .273     .000
00844>         [CN= 71.0: N= 3.00: Tp=  .38]
00845> #*******************************************************************************
00846> # Pre9_2
00847> #*******************************************************************************
00848> R0010:C00018-----------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFCms
00849> *     CALIB NASHYD           1.0 01:Pre9_2        .01     .001 No_date    1:00    9.08 .183     .000
00850>         [CN= 59.0: N= 3.00: Tp=  .03]
00851> #*******************************************************************************
00852> # Pre10_1
00853> #*******************************************************************************
00854> R0010:C00019-----------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFCms
00855>       CALIB NASHYD           1.0 01:Pre10_1       .80     .029 No_date    1:21   13.53 .273     .000
00856>         [CN= 71.0: N= 3.00: Tp=  .29]
00857> #*******************************************************************************
00858> # Pre11_1
00859> #*******************************************************************************
00860> R0010:C00020-----------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFCms
00861>       CALIB NASHYD           1.0 01:Pre11_1       .07     .004 No_date    1:14   17.25 .348     .000
00862>         [CN= 78.0: N= 3.00: Tp=  .21]
00863> #*******************************************************************************
00864> # Site 1
00865> #*******************************************************************************
00866> R0010:C00021-----------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFCms
00867>       DESIGN STANDHYD        1.0 01:S1-B1         .42     .070 No_date    1:00   27.23 .550     .000
00868>         [XIMP=.34:TIMP=.44]
00869>         [SLP=1.00:DT= 1.00]
00870>         [LOSS= 1 : HORTONS]
00871> #*******************************************************************************
00872> # Site 1 - Roof
00873> #*******************************************************************************
00874> R0010:C00022-----------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFCms
00875>       DESIGN STANDHYD        1.0 01:S1-Roof       .06     .022 No_date    1:00   47.58 .961     .000
00876>         [XIMP=.99:TIMP=.99]
00877>         [SLP=  .50:DT= 1.00]
00878>         [LOSS= 1 : HORTONS]
00879> R0010:C00023-----------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFCms
00880>       ROUTE RESERVOIR ->     1.0 02:S1-Roof         .06     .022 No_date    1:00   47.58  n/a     .000
00881>                      out <=    1.0 01:S1-Roof-Ou     .06     .002 No_date    1:30   47.58  n/a     .000
00882>                  overflow <=   1.0 03:S1-Roof-Ov     .00     .000 No_date    0:00    .00  n/a     .000
00883>       (MxStoUsed=.2078E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs)
00884> R0010:C00024-----------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFCms
00885>       ADD HYD                1.0 02:S1-B1         .42     .070 No_date    1:00   27.23  n/a     .000
00886>                          +     1.0 02:S1-Roof-Ou    .06     .002 No_date    1:30   47.58  n/a     .000
00887>                          +     1.0 02:S1-Roof-Ov    .00     .000 No_date    0:00    .00  n/a     .000
00888>                      SUM=      1.0 01:SITE1-IN      .48     .072 No_date    1:00   29.99  n/a     .000
00889> R0010:C00025-----------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFCms
00890>       ROUTE RESERVOIR ->     1.0 02:SITE1-IN      .48     .072 No_date    1:00   29.99  n/a     .000
00891>                      out <=    1.0 01:SITE1-Out     .48     .007 No_date    1:43   29.99  n/a     .000
00892>                  overflow <=   1.0 03:SITE1-Over    .00     .000 No_date    0:00    .00  n/a     .000
00893>       (MxStoUsed=.8491E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs)
00894> #*******************************************************************************
00895> # Site 2
00896> #*******************************************************************************
00897> R0010:C00026-----------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFCms
00898>       DESIGN STANDHYD        1.0 01:S2-B3         .35     .057 No_date    1:00   26.22 .530     .000
00899>         [XIMP=.31:TIMP=.41]
00900>         [SLP=1.00:DT= 1.00]
00901>         [LOSS= 1 : HORTONS]
00902> #*******************************************************************************
00903> # Site 2 - Roof
00904> #*******************************************************************************
00905> R0010:C00027-----------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFCms
00906>       DESIGN STANDHYD        1.0 01:S2-Roof       .09     .031 No_date    1:00   47.58 .961     .000
00907>         [XIMP=.99:TIMP=.99]
00908>         [SLP=  .50:DT= 1.00]
00909>         [LOSS= 1 : HORTONS]
00910> #*******************************************************************************
00911> R0010:C00028-----------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFCms
00912>       ROUTE RESERVOIR ->     1.0 02:S2-Roof         .09     .031 No_date    1:00   47.58  n/a     .000
00913>                      out <=    1.0 01:S2-Roof-Ou     .09     .007 No_date    1:11   47.60  n/a     .000
00914>                  overflow <=   1.0 03:S2-Roof-Ov     .00     .000 No_date    0:00    .00  n/a     .000
00915>       (MxStoUsed=.2022E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs)
00916> R0010:C00029-----------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFCms
00917>       ADD HYD                1.0 02:S2-B3         .35     .057 No_date    1:00   26.22  n/a     .000
00918>                          +     1.0 02:S2-Roof-Ou    .09     .007 No_date    1:11   47.60  n/a     .000
00919>                          +     1.0 02:S2-Roof-Ov    .00     .000 No_date    0:00    .00  n/a     .000
00920>                      SUM=      1.0 01:SITE2-IN      .45     .064 No_date    1:00   30.67  n/a     .000
00921> R0010:C00030-----------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFCms
00922>       ROUTE RESERVOIR ->     1.0 02:SITE2-IN      .45     .064 No_date    1:00   30.67  n/a     .000
00923>                      out <=    1.0 01:SITE2-Out     .45     .008 No_date    1:55   30.67  n/a     .000
00924>                  overflow <=   1.0 03:SITE2-Over    .00     .000 No_date    0:00    .00  n/a     .000
00925>       (MxStoUsed=.8397E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs)
00926> R0010:C00031-----------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFCms
00927>       ADD HYD                1.0 02:SITE1-Out     .48     .007 No_date    1:43   29.99  n/a     .000
00928>                          +     1.0 02:SITE1-Over    .00     .000 No_date    0:00    .00  n/a     .000
00929>                      SUM=      1.0 01:Site1         .48     .007 No_date    1:43   29.99  n/a     .000
00930> R0010:C00032-----------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFCms
00931>       ADD HYD                1.0 02:SITE2-Out     .45     .008 No_date    1:55   30.67  n/a     .000
00932>                          +     1.0 02:SITE2-Over    .00     .000 No_date    0:00    .00  n/a     .000
00933>                      SUM=      1.0 01:Site2         .45     .008 No_date    1:55   30.67  n/a     .000
00934> R0010:C00033-----------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFCms
00935>       ADD HYD                1.0 02:EXT2          .28     .016 No_date    1:23   22.42  n/a     .000
00936>                          +     1.0 02:Pre2_1        .01     .001 No_date    1:00   13.99  n/a     .000
00937>                          +     1.0 02:Site1         .48     .007 No_date    1:43   29.99  n/a     .000
00938>                          +     1.0 02:Site2         .45     .008 No_date    1:55   30.67  n/a     .000
00939>                      SUM=      1.0 01:J1            .23     .032 No_date    1:23   28.30  n/a     .000
00940> R0010:C00034-----------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFCms
00941>       ROUTE CHANNEL          ->     1.0 02:J1            1.23     .032 No_date    1:23   28.30  n/a     .000
00942>         [RDT= 1.00] out<-          1.0 01:R1            1.23     .031 No_date    1:31   28.30  n/a     .000
00943>          [L/S/n=  143./ .394/.035]
00944>          (Vmax=  .303:Dmax=  .117)
00945> R0010:C00035-----------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFCms
00946>       ADD HYD                1.0 02:R1            1.23     .031 No_date    1:31   28.30  n/a     .000
00947>                          +     1.0 02:EXT3          .56     .027 No_date    1:23   18.55  n/a     .000
00948>                          +     1.0 02:EXT1         3.21     .088 No_date    1:54   18.55  n/a     .000
00949>                      SUM=      1.0 01:J2            5.00     .132 No_date    1:43   20.95  n/a     .000
00950> R0010:C00036-----------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFCms
00951>       ROUTE CHANNEL          ->     1.0 02:J2            5.00     .132 No_date    1:43   20.95  n/a     .000
00952>         [RDT= 1.00] out<-          1.0 01:R2            5.00     .132 No_date    1:45   20.95  n/a     .000
00953>          [L/S/n=   73./ .425/.035]
00954>          (Vmax=  .441:Dmax=  .217)
00955> R0010:C00037-----------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFCms
00956>       ADD HYD                1.0 02:R2            5.00     .132 No_date    1:45   20.95  n/a     .000
00957>                          +     1.0 02:EXT4          .31     .015 No_date    1:20   17.89  n/a     .000
00958>                      SUM=      1.0 01:J3            5.31     .141 No_date    1:42   20.77  n/a     .000
00959> R0010:C00038-----------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFCms
00960>       ROUTE CHANNEL          ->     1.0 02:J3            5.31     .141 No_date    1:42   20.77  n/a     .000
00961>         [RDT= 1.00] out<-          1.0 01:R3            5.31     .141 No_date    1:45   20.77  n/a     .000
00962>          [L/S/n=   92./ .274/.035]
00963>          (Vmax=  .361:Dmax=  .224)
00964> R0010:C00039-----------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFCms
00965>       ADD HYD                1.0 02:R3            5.31     .141 No_date    1:45   20.77  n/a     .000
00966>                          +     1.0 02:EXT5          .59     .019 No_date    1:33   16.07  n/a     .000
00967>                      SUM=      1.0 01:J4            5.90     .159 No_date    1:43   20.29  n/a     .000
00968> R0010:C00040-----------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFCms
00969>       ROUTE CHANNEL          ->     1.0 02:J4            5.90     .159 No_date    1:43   20.29  n/a     .000
00970>         [RDT= 1.00] out<-          1.0 01:R4            5.90     .149 No_date    1:56   20.29  n/a     .000
00971>          [L/S/n=  251./ .190/.035]
00972>          (Vmax=  .350:Dmax=  .248)
00973> R0010:C00041-----------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFCms
00974>       ADD HYD                1.0 02:R4            5.90     .149 No_date    1:56   20.29  n/a     .000
00975>                          +     1.0 02:EXT6          .86     .035 No_date    1:41   22.42  n/a     .000
00976>                          +     1.0 02:EXT7          .47     .025 No_date    1:22   20.75  n/a     .000
00977>                      SUM=      1.0 01:J5            7.23     .196 No_date    1:50   20.58  n/a     .000
00978> R0010:C00042-----------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFCms
00979>       ROUTE CHANNEL          ->     1.0 02:J5            7.23     .196 No_date    1:50   20.58  n/a     .000
00980>         [RDT= 1.00] out<-          1.0 01:R5            7.23     .193 No_date    1:55   20.58  n/a     .000
00981>          [L/S/n=  237./ .644/.035]
00982>          (Vmax=  .571:Dmax=  .237)
00983> R0010:C00043-----------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFCms
00984>       ADD HYD                1.0 02:Pre10_1       .80     .029 No_date    1:21   13.53  n/a     .000
00985>                          +     1.0 02:Pre9_2        .01     .001 No_date    1:00    9.08  n/a     .000
00986>                          +     1.0 02:Pre2_2        .00     .000 No_date    1:00   17.23  n/a     .000
00987>                      SUM=      1.0 01:Pre           .81     .029 No_date    1:20   13.46  n/a     .000
00988> R0010:C00044-----------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFCms
00989>       ROUTE CHANNEL          ->     1.0 02:Pre           .81     .029 No_date    1:20   13.46  n/a     .000
00990>         [RDT= 1.00] out<-          1.0 01:R6            .81     .029 No_date    1:23   13.46  n/a     .000
00991>          [L/S/n=   77./ .776/.035]
00992>          (Vmax=  .492:Dmax=  .021)
00993> R0010:C00045-----------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFCms
00994>       ROUTE CHANNEL          ->     1.0 02:Pre9_1        .44     .013 No_date    1:28   13.53  n/a     .000
00995>         [RDT= 1.00] out<-          1.0 01:R7            .44     .013 No_date    1:32   13.53  n/a     .000
00996>          [L/S/n=  159./1.576/.035]
00997>          (Vmax=  .797:Dmax=  .004)
00998> R0010:C00046-----------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFCms
00999>       ADD HYD                1.0 02:R6            .81     .033 No_date    4:26   13.71  n/a     .000
01000>                          +     1.0 02:EXT10         .20     .006 No_date    1:31   13.53  n/a     .000
01001>                      SUM=      1.0 01:J6            1.02     .034 No_date    1:24   13.67  n/a     .000
01002> R0010:C00047-----------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFCms
01003>       ROUTE CHANNEL          ->     1.0 02:J6            1.02     .034 No_date    1:24   13.67  n/a     .000
01004>         [RDT= 1.00] out<-          1.0 01:R8            1.02     .034 No_date    1:28   13.67  n/a     .000
01005>          [L/S/n=   79./ .522/.035]
01006>          (Vmax=  .423:Dmax=  .025)
01007> R0010:C00048-----------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFCms
01008>       ADD HYD                1.0 02:R8            1.02     .034 No_date    1:28   13.81  n/a     .000
01009>                          +     1.0 02:R7            .44     .025 No_date    4:45   13.87  n/a     .000
01010>                      SUM=      1.0 01:J7            1.46     .047 No_date    1:29   13.83  n/a     .000
01011> R0010:C00049-----------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFCms
01012>       ROUTE CHANNEL          ->     1.0 02:J7            1.46     .047 No_date    1:29   13.83  n/a     .000
01013>         [RDT= 1.00] out<-          1.0 01:R9            1.46     .047 No_date    1:30   13.83  n/a     .000
01014>          [L/S/n=   29./ .887/.035]
01015>          (Vmax=  .543:Dmax=  .032)
01016> R0010:C00050-----------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFCms
01017>       ADD HYD                1.0 02:EXT9         3.57     .111 No_date    1:36   16.08  n/a     .000
01018>                          +     1.0 02:R9            1.46     .047 No_date    1:30   13.92  n/a     .000
01019>                          +     1.0 02:EXT8          .83     .032 No_date    1:31   17.89  n/a     .000
01020>                          +     1.0 02:R5            7.23     .193 No_date    1:55   20.58  n/a     .000
01021>                      SUM=      1.0 01:J8           13.09     .357 No_date    1:45   18.44  n/a     .000
01022> R0010:C00051-----------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFCms
01023>       ROUTE PIPE             ->     1.0 02:J8           13.09     .357 No_date    1:45   18.44  n/a     .000
01024> *     [RDT= 1.00] out<-          1.0 01:Outlet        13.09     .357 No_date    1:46   18.44  n/a     .000
01025>          [L/S/n=    8./ .010/.013]
01026>          (Vmax=  .384:Dmax=  .953)
01027>          [Din=  .53:Dused= 1.16)
01028> ###############################################################################
01029> # STORMS
01030> ###############################################################################
01031>   ** END OF RUN :  24
01032>
01033> ********************************************************************************
01034>
01035>
01036>
01037>
01038>
01039>  RUN#:COMMAND#
01040> R0025:C00001-----------------------------------------------------------------------
01041>       START                  [TZERO =    .00 hrs on        0]
01042>         [METOUT=  2   (1=imperial, 2=metric output)]
01043>         [NSTORM=  1 ]
01044>         [NRUN  = 0025 ]
01045> #*******************************************************************************
01046> #  SWMHYMO  / INPUT DATA FILE
01047> #*******************************************************************************
01048> #  Project Name  : [5923 Ottawa St]
01049> #  Project Number: [P2710(e01)]
01050> #  Date          : [2025 April 28]
01051> #  Modeller      : [MM]
01052> #  Company       : JFSA Canada Inc.
01053> #  License #     : 2549237
01054> #*******************************************************************************
01055> # Model developed to simulate runoff from subcatchments under post development conditions
01056> #*******************************************************************************
01057> R0025:C00002-----------------------------------------------------------------------
01058>       READ STORM
01059>         Filename = STORM.001
01060>         Comment  = CHICAGO STORM   25 Year, 3 Hours
01061>         [SDT=10.00:SDUR=   3.00:PTOT=  58.23]
01062> #*******************************************************************************
01063> R0025:C00003-----------------------------------------------------------------------
01064>       DEFAULT VALUES
01065>         Filename = C:\Temp\20250910-PostDev\Ottawa.val
01066>         ICASEdv  = 1 (read and print data)
01067>         FileTitle= File comment: [Parameters for City of Ottawa Projects]
01068>                    THE FOLLOWING PARAMETERS ARE USED IN THE DESIGN STANDHYD COM
01069>         Horton's infiltration equation parameters:
01070>         [Fo= 76.20 mm/hr] [Fc=13.20 mm/hr] [DCAY= 4.14 /hr] [F=  .00 mm]
01071>         Parameters for PERVIOUS surfaces in STANDHYD:
01072>         [IAper=   4.67 mm] [LGP=40.00 m] [MNP= .250]
01073>         Parameters for IMPERVIOUS surfaces in STANDHYD:
01074>         [IAimp=   1.57 mm] [CLI= 1.50]   [MNI= .013]
01075>         Parameters used in NASHYD:
01076>         [Ia=   4.67 mm] [N= 3.00]
01077>         Average monthly Pan Evaporation data in     (mm)
01078>       JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
01079>      .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
01080>
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01081>       Average monthly Potential Evapotranspiration in    (mm)
01082>    JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
01083>   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
01084> *****************************************************************************************
01085> # EXT1
01086> *****************************************************************************************
01087> R0025:C00004-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01088>      CALIB NASHYD            1.0 01:EXT1          3.21     .118 No_date    1:53   24.50 .421     .000
01089>        [CN= 80.0: N= 3.00: Tp=  .72]
01090> *****************************************************************************************
01091> # EXT2
01092> *****************************************************************************************
01093> R0025:C00005-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01094>      CALIB NASHYD            1.0 01:EXT2          .28     .022 No_date    1:22   29.15 .501     .000
01095>        [CN= 85.0: N= 3.00: Tp=  .33]
01096> *****************************************************************************************
01097> # EXT3
01098> *****************************************************************************************
01099> R0025:C00006-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01100>      CALIB NASHYD            1.0 01:EXT3          .56     .036 No_date    1:22   24.50 .421     .000
01101>        [CN= 80.0: N= 3.00: Tp=  .32]
01102> *****************************************************************************************
01103> # EXT4
01104> *****************************************************************************************
01105> R0025:C00007-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01106>      CALIB NASHYD            1.0 01:EXT4          .31     .020 No_date    1:20   23.69 .407     .000
01107>        [CN= 79.0: N= 3.00: Tp=  .29]
01108> *****************************************************************************************
01109> # EXT5
01110> *****************************************************************************************
01111> R0025:C00008-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01112>      CALIB NASHYD            1.0 01:EXT5          .59     .026 No_date    1:33   21.44 .368     .000
01113>        [CN= 76.0: N= 3.00: Tp=  .45]
01114> *****************************************************************************************
01115> # EXT6
01116> *****************************************************************************************
01117> R0025:C00009-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01118>      CALIB NASHYD            1.0 01:EXT6          .86     .046 No_date    1:40   29.15 .501     .000
01119>        [CN= 85.0: N= 3.00: Tp=  .56]
01120> *****************************************************************************************
01121> # EXT7
01122> *****************************************************************************************
01123> R0025:C00010-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01124>      CALIB NASHYD            1.0 01:EXT7          .47     .034 No_date    1:22   27.17 .467     .000
01125>        [CN= 83.0: N= 3.00: Tp=  .32]
01126> *****************************************************************************************
01127> # EXT8
01128> *****************************************************************************************
01129> R0025:C00011-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01130>      CALIB NASHYD            1.0 01:EXT8          .83     .043 No_date    1:30   23.69 .407     .000
01131>        [CN= 79.0: N= 3.00: Tp=  .42]
01132> *****************************************************************************************
01133> # EXT9
01134> *****************************************************************************************
01135> R0025:C00012-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01136>      CALIB NASHYD            1.0 01:EXT9         3.57     .151 No_date    1:35   21.44 .368     .000
01137>        [CN= 76.0: N= 3.00: Tp=  .48]
01138> *****************************************************************************************
01139> # EXT9a
01140> *****************************************************************************************
01141> R0025:C00013-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01142>      CALIB NASHYD            1.0 01:EXT9a         .01     .002 No_date    1:00   22.90 .393     .000
01143>        [CN= 78.0: N= 3.00: Tp=  .04]
01144> *****************************************************************************************
01145> # EXT10
01146> *****************************************************************************************
01147> R0025:C00014-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01148>      CALIB NASHYD            1.0 01:EXT10         .20     .008 No_date    1:31   18.23 .313     .000
01149>        [CN= 71.0: N= 3.00: Tp=  .42]
01150> *****************************************************************************************
01151> # Pre2_1
01152> *****************************************************************************************
01153> R0025:C00015-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01154> *    CALIB NASHYD            1.0 01:Pre2_1        .01     .002 No_date    1:00   18.82 .323     .000
01155>        [CN= 72.0: N= 3.00: Tp=  .03]
01156> *****************************************************************************************
01157> # Pre2_2
01158> *****************************************************************************************
01159> R0025:C00016-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01160> *    CALIB NASHYD            1.0 01:Pre2_2        .00     .000 No_date    1:00   22.87 .393     .000
01161>        [CN= 78.0: N= 3.00: Tp=  .02]
01162> *****************************************************************************************
01163> # Pre9_1
01164> *****************************************************************************************
01165> R0025:C00017-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01166>      CALIB NASHYD            1.0 01:Pre9_1        .44     .018 No_date    1:27   18.23 .313     .000
01167>        [CN= 71.0: N= 3.00: Tp=  .38]
01168> *****************************************************************************************
01169> # Pre9_2
01170> *****************************************************************************************
01171> R0025:C00018-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01172> *    CALIB NASHYD            1.0 01:Pre9_2        .01     .001 No_date    1:00   12.46 .214     .000
01173>        [CN= 59.0: N= 3.00: Tp=  .03]
01174> *****************************************************************************************
01175> # Pre10_1
01176> *****************************************************************************************
01177> R0025:C00019-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01178>      CALIB NASHYD            1.0 01:Pre10_1       .80     .040 No_date    1:20   18.23 .313     .000
01179>        [CN= 71.0: N= 3.00: Tp=  .29]
01180> *****************************************************************************************
01181> # Pre11_1
01182> *****************************************************************************************
01183> R0025:C00020-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01184>      CALIB NASHYD            1.0 01:Pre11_1       .07     .005 No_date    1:13   22.90 .393     .000
01185>        [CN= 78.0: N= 3.00: Tp=  .21]
01186> *****************************************************************************************
01187> # Site 1
01188> *****************************************************************************************
01189> R0025:C00021-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01190>      DESIGN STANDHYD         1.0 01:S1-B1         .42     .092 No_date    1:00   34.53 .593     .000
01191>        [XIMP=.34:TIMP=.44]
01192>        [SLP=1.00:DT= 1.00]
01193>        [LOSS= 1 : HORTONS]
01194> *****************************************************************************************
01195> # Site 1 - Roof
01196> *****************************************************************************************
01197> R0025:C00022-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01198>      DESIGN STANDHYD         1.0 01:S1-Roof       .06     .026 No_date    1:00   56.27 .966     .000
01199>        [XIMP=.99:TIMP=.99]
01200>        [SLP= .50:DT= 1.00]
01201>        [LOSS= 1 : HORTONS]
01202> R0025:C00023-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01203>      ROUTE RESERVOIR ->      1.0 02:S1-Roof       .06     .026 No_date    1:00   56.27  n/a     .000
01204>                  out <=      1.0 01:S1-Roof-Ou    .06     .003 No_date    1:30   56.27  n/a     .000
01205>              overflow <=     1.0 01:S1-Roof-Ov    .00     .000 No_date    0:00     .00  n/a     .000
01206>       (MxStoUsed=.2466E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs)
01207> R0025:C00024-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01208>      ADD HYD                 1.0 02:S1-B1         .42     .092 No_date    1:00   34.53  n/a     .000
01209>                        +     1.0 02:S1-Roof-Ou    .06     .003 No_date    1:30   56.27  n/a     .000
01210>                        +     1.0 02:S1-Roof-Ov    .00     .000 No_date    0:00     .00  n/a     .000
01211>                      SUM=    1.0 01:S1-IN         .48     .094 No_date    1:00   37.47  n/a     .000
01212> R0025:C00025-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01213>      ROUTE RESERVOIR ->      1.0 02:S1IE1-IN      .48     .094 No_date    1:00   37.47  n/a     .000
01214>                  out <=      1.0 01:S1IE1-Out     .48     .008 No_date    1:46   37.47  n/a     .000
01215>              overflow <=     1.0 03:S1IE1-Over    .00     .000 No_date    0:00     .00  n/a     .000
01216>       (MxStoUsed=.1128E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs)
01217> *****************************************************************************************
01218> # Site 2
01219> *****************************************************************************************
01220> R0025:C00026-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01221>      DESIGN STANDHYD         1.0 01:S2-B3         .35     .076 No_date    1:00   33.45 .574     .000
01222>        [XIMP=.31:TIMP=.41]
01223>        [SLP=1.00:DT= 1.00]
01224>        [LOSS= 1 : HORTONS]
01225> *****************************************************************************************
01226> # Site 2 - Roof
01227> *****************************************************************************************
01228> R0025:C00027-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01229>      DESIGN STANDHYD         1.0 01:S2-Roof       .09     .037 No_date    1:00   56.28 .967     .000
01230>        [XIMP=.99:TIMP=.99]
01231>        [SLP= .50:DT= 1.00]
01232>        [LOSS= 1 : HORTONS]
01233> *****************************************************************************************
01234> R0025:C00028-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01235>      ROUTE RESERVOIR ->      1.0 02:S2-Roof       .09     .037 No_date    1:00   56.28  n/a     .000
01236>                  out <=      1.0 01:S2-Roof-Ou    .09     .008 No_date    1:11   56.29  n/a     .000
01237>              overflow <=     1.0 01:S2-Roof-Ov    .00     .000 No_date    0:00     .00  n/a     .000
01238>       (MxStoUsed=.2497E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs)
01239> R0025:C00029-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01240>      ADD HYD                 1.0 02:S2-B3         .35     .076 No_date    1:00   33.45  n/a     .000
01241>                        +     1.0 02:S2-Roof-Ou    .09     .008 No_date    1:11   56.29  n/a     .000
01242>                        +     1.0 02:S2-Roof-Ov    .00     .000 No_date    0:00     .00  n/a     .000
01243>                      SUM=    1.0 01:S2IE2-IN      .45     .083 No_date    1:00   38.20  n/a     .000
01244> R0025:C00030-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01245>      ROUTE RESERVOIR ->      1.0 02:S1IE2-IN      .45     .083 No_date    1:00   38.20  n/a     .000
01246>                  out <=      1.0 01:S1IE2-Out     .45     .009 No_date    2:01   38.20  n/a     .000
01247>              overflow <=     1.0 03:S1IE2-Over    .00     .000 No_date    0:00     .00  n/a     .000
01248>       (MxStoUsed=.1094E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs)
01249> R0025:C00031-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01250>      ADD HYD                 1.0 02:S1IE1-Out     .48     .008 No_date    1:46   37.47  n/a     .000
01251>                        +     1.0 02:S1IE1-Over    .00     .000 No_date    0:00     .00  n/a     .000
01252>                      SUM=    1.0 01:S1ie1         .48     .008 No_date    1:46   37.47  n/a     .000
01253> R0025:C00032-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01254>      ADD HYD                 1.0 02:S1IE2-Out     .45     .009 No_date    2:01   38.20  n/a     .000
01255>                        +     1.0 02:S1IE2-Over    .00     .000 No_date    0:00     .00  n/a     .000
01256>                      SUM=    1.0 01:S1ie2         .45     .009 No_date    2:01   38.20  n/a     .000
01257> R0025:C00033-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01258>      ADD HYD                 1.0 02:EXT2          .28     .022 No_date    1:22   29.15  n/a     .000
01259>                        +     1.0 02:Pre2_1        .01     .002 No_date    1:00   18.82  n/a     .000
01260>                        +     1.0 02:Site1         .48     .008 No_date    1:46   37.47  n/a     .000
01261>                        +     1.0 02:Site2         .45     .009 No_date    2:01   38.20  n/a     .000
01262>                      SUM=    1.0 01:J1           1.23     .038 No_date    1:22   35.61  n/a     .000
01263> R0025:C00034-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01264>      ROUTE CHANNEL   ->      1.0 02:J1           1.23     .038 No_date    1:22   35.61  n/a     .000
01265>        [RDT= 1.00] out<-     1.0 01:R1           1.23     .037 No_date    1:30   35.61  n/a     .000
01266>         [L/S/n=  143./ .394/.035]
01267>         [Vmax=  .318:Dmax=  .126]
01268> R0025:C00035-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01269>      ADD HYD                 1.0 02:R1           1.23     .037 No_date    1:30   35.61  n/a     .000
01270>                        +     1.0 02:EXT3          .56     .036 No_date    1:22   24.50  n/a     .000
01271>                        +     1.0 02:EXT1         3.21     .118 No_date    1:53   24.50  n/a     .000
01272>                      SUM=    1.0 01:J2           5.00     .172 No_date    1:42   27.23  n/a     .000
01273> R0025:C00036-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01274>      ROUTE CHANNEL   ->      1.0 02:J2           5.00     .172 No_date    1:42   27.23  n/a     .000
01275>        [RDT= 1.00] out<-     1.0 01:R2           5.00     .172 No_date    1:44   27.23  n/a     .000
01276>         [L/S/n=  73./ .425/.035]
01277>         [Vmax=  .475:Dmax=  .242]
01278> R0025:C00037-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01279>      ADD HYD                 1.0 02:R2           5.00     .172 No_date    1:44   27.23  n/a     .000
01280>                        +     1.0 02:EXT4          .31     .020 No_date    1:20   23.69  n/a     .000
01281>                      SUM=    1.0 01:J3           5.31     .185 No_date    1:41   27.02  n/a     .000
01282> R0025:C00038-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01283>      ROUTE CHANNEL   ->      1.0 02:J3           5.31     .185 No_date    1:41   27.02  n/a     .000
01284>        [RDT= 1.00] out<-     1.0 01:R3           5.31     .184 No_date    1:44   27.02  n/a     .000
01285>         [L/S/n=  92./ .274/.035]
01286>         [Vmax=  .388:Dmax=  .250]
01287> R0025:C00039-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01288>      ADD HYD                 1.0 02:R3           5.31     .184 No_date    1:44   27.02  n/a     .000
01289>                        +     1.0 02:EXT5          .59     .026 No_date    1:33   21.44  n/a     .000
01290>                      SUM=    1.0 01:J4           5.90     .209 No_date    1:42   26.46  n/a     .000
01291> R0025:C00040-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01292>      ROUTE CHANNEL   ->      1.0 02:J4           5.90     .209 No_date    1:42   26.46  n/a     .000
01293>        [RDT= 1.00] out<-     1.0 01:R4           5.90     .197 No_date    1:53   26.46  n/a     .000
01294>         [L/S/n=  251./ .190/.035]
01295>         [Vmax=  .380:Dmax=  .280]
01296> R0025:C00041-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01297>      ADD HYD                 1.0 02:R4           5.90     .197 No_date    1:53   26.46  n/a     .000
01298>                        +     1.0 02:EXT6          .86     .046 No_date    1:40   29.15  n/a     .000
01299>                        +     1.0 02:EXT7          .47     .034 No_date    1:22   27.17  n/a     .000
01300>                      SUM=    1.0 01:J5           7.23     .260 No_date    1:48   26.83  n/a     .000
01301> R0025:C00042-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01302>      ROUTE CHANNEL   ->      1.0 02:J5           7.23     .260 No_date    1:48   26.83  n/a     .000
01303>        [RDT= 1.00] out<-     1.0 01:R5           7.23     .257 No_date    1:53   26.83  n/a     .000
01304>         [L/S/n=  237./ .644/.035]
01305>         [Vmax=  .618:Dmax=  .264]
01306> R0025:C00043-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01307>      ADD HYD                 1.0 02:Pre10_1       .80     .040 No_date    1:20   18.23  n/a     .000
01308>                        +     1.0 02:Pre9_2        .01     .001 No_date    1:00   12.46  n/a     .000
01309>                        +     1.0 02:Pre2_2        .00     .000 No_date    1:00   22.87  n/a     .000
01310>                      SUM=    1.0 01:Pre           .81     .040 No_date    1:20   18.15  n/a     .000
01311> R0025:C00044-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01312>      ROUTE CHANNEL   ->      1.0 02:Pre          .81     .040 No_date    1:20   18.15  n/a     .000
01313>        [RDT= 1.00] out<-     1.0 01:R6           .81     .039 No_date    1:23   18.15  n/a     .000
01314>         [L/S/n=  77./ .776/.035]
01315>         [Vmax=  .492:Dmax=  .029]
01316> R0025:C00045-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01317>      ROUTE CHANNEL   ->      1.0 02:Pre9_1        .44     .018 No_date    1:27   18.23  n/a     .000
01318>        [RDT= 1.00] out<-     1.0 01:R7           .44     .018 No_date    1:31   18.23  n/a     .000
01319>         [L/S/n=  159./1.576/.035]
01320>         [Vmax=  .797:Dmax=  .005]
01321> R0025:C00046-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01322>      ADD HYD                 1.0 02:R6           .81     .039 No_date    1:23   18.43  n/a     .000
01323>                        +     1.0 02:EXT10         .20     .008 No_date    1:31   18.23  n/a     .000
01324>                      SUM=    1.0 01:J6           1.02     .047 No_date    1:24   18.39  n/a     .000
01325> R0025:C00047-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01326>      ROUTE CHANNEL   ->      1.0 02:J6           1.02     .047 No_date    1:24   18.39  n/a     .000
01327>        [RDT= 1.00] out<-     1.0 01:R8           1.02     .046 No_date    1:27   18.39  n/a     .000
01328>         [L/S/n=  79./ .522/.035]
01329>         [Vmax=  .423:Dmax=  .034]
01330> R0025:C00048-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01331>      ADD HYD                 1.0 02:R8           1.02     .046 No_date    1:27   18.55  n/a     .000
01332>                        +     1.0 02:R7           .44     .028 No_date    4:48   18.61  n/a     .000
01333>                      SUM=    1.0 01:J7           1.46     .064 No_date    1:28   18.57  n/a     .000
01334> R0025:C00049-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01335>      ROUTE CHANNEL   ->      1.0 02:J7           1.46     .064 No_date    1:28   18.57  n/a     .000
01336>        [RDT= 1.00] out<-     1.0 01:R9           1.46     .064 No_date    1:29   18.57  n/a     .000
01337>         [L/S/n=  29./ .887/.035]
01338>         [Vmax=  .543:Dmax=  .043]
01339> R0025:C00050-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01340>      ADD HYD                 1.0 02:EXT9         3.57     .151 No_date    1:35   21.44  n/a     .000
01341>                        +     1.0 02:R9           1.46     .064 No_date    1:29   18.67  n/a     .000
01342>                        +     1.0 02:EXT8          .83     .043 No_date    1:30   23.69  n/a     .000
01343>                        +     1.0 02:R5           7.23     .257 No_date    1:53   26.83  n/a     .000
01344>                      SUM=    1.0 01:J8          13.09     .483 No_date    1:43   24.25  n/a     .000
01345> R0025:C00051-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01346>      ROUTE PIPE      ->      1.0 02:J8          13.09     .483 No_date    1:43   24.25  n/a     .000
01347> *    [RDT= 1.00] out<-     1.0 01:Outlet        13.09     .483 No_date    1:43   24.25  n/a     .000
01348>         [L/S/n=  8./ .010/.013]
01349>         [Vmax=  .414:Dmax= 1.067]
01350>         [Din=  .53:Dused= 1.30]
01351> ###############################################################################
01352> # STORMS
01353> ###############################################################################
01354>  ** END OF RUN :  49
01355>
01356> *****************************************************************************************
01357>
01358>
01359>
01360>
01361>
01362>  RUN#:COMMAND#
01363> R0050:C00001-------------------------------------------------------------------------------
01364>       START
01365>         [TZERO =    .00 hrs on         0]
01366>         [METOUT=   2   (1=imperial, 2=metric output)]
01367>         [NSTORM=   1 ]
01368>         [NRUN  = 0050 ]
01369> *****************************************************************************************
01370> #  SWMHYMO  / INPUT DATA FILE
01371> *****************************************************************************************
01372> #  Project Name  : [5923 Ottawa St]
01373> #  Project Number: [P2710(e01)]
01374> #  Date          : [2025 April 28]
01375> #  Modeller      : [MM]
01376> #  Company       : JFSA Canada Inc.
01377> #  License #     : 2549237
01378> *****************************************************************************************
01379> # Model developed to simulate runoff from subcatchments under post development conditions
01380> *****************************************************************************************
01381> R0050:C00002-------------------------------------------------------------------------------
01382>       READ STORM
01383>       Filename = STORM.001
01384>       Comment  = CHICAGO STORM  50 Year, 3 Hours
01385>       [SDT=10.00:SDUR=   3.00:PTOT=  64.81]
01386> *****************************************************************************************
01387> R0050:C00003-------------------------------------------------------------------------------
01388>       DEFAULT VALUES
01389>       Filename = C:\Temp\20250910-PostDev\Ottawa.val
01390>       ICASEdv  = 1 (read and print data)
01391>       FileTitle= File comment: [Parameters for City of Ottawa Projects]
01392>                  THE FOLLOWING PARAMETERS ARE USED IN THE DESIGN STANDHYD COM
01393>       Horton's infiltration equation parameters:
01394>       [Fo= 76.20 mm/hr] [Fc=13.20 mm/hr] [DCAY= 4.14 /hr] [F=  .00 mm]
01395>       Parameters for PERVIOUS surfaces in STANDHYD:
01396>       [IAper=   4.67 mm] [LGP=40.00 m] [MNP= .250]
01397>       Parameters for IMPERVIOUS surfaces in STANDHYD:
01398>       [IAimp=   1.57 mm] [CLI= 1.50]    [MNI= .013]
01399>       Parameters used in NASHYD:
01400>       [Ia=   4.67 mm] [N= 3.00]
01401>       Average monthly Pan Evaporation data in    (mm)
01402>    JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
01403>   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
01404>       Average monthly Potential Evapotranspiration in    (mm)
01405>    JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
01406>   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
01407> *****************************************************************************************
01408> # EXT1
01409> *****************************************************************************************
01410> R0050:C00004-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01411>      CALIB NASHYD            1.0 01:EXT1          3.21     .142 No_date    1:53   29.25 .451     .000
01412>        [CN= 80.0: N= 3.00: Tp=  .72]
01413> *****************************************************************************************
01414> # EXT2
01415> *****************************************************************************************
01416> R0050:C00005-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01417>      CALIB NASHYD            1.0 01:EXT2          .28     .026 No_date    1:22   34.45 .532     .000
01418>        [CN= 85.0: N= 3.00: Tp=  .33]
01419> *****************************************************************************************
01420> # EXT3
01421> *****************************************************************************************
01422> R0050:C00006-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01423>      CALIB NASHYD            1.0 01:EXT3          .56     .044 No_date    1:22   29.25 .451     .000
01424>        [CN= 80.0: N= 3.00: Tp=  .32]
01425> *****************************************************************************************
01426> # EXT4
01427> *****************************************************************************************
01428> R0050:C00007-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01429>      CALIB NASHYD            1.0 01:EXT4          .31     .025 No_date    1:19   28.33 .437     .000
01430>        [CN= 79.0: N= 3.00: Tp=  .29]
01431> *****************************************************************************************
01432> # EXT5
01433> *****************************************************************************************
01434> R0050:C00008-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01435>      CALIB NASHYD            1.0 01:EXT5          .59     .032 No_date    1:32   25.77 .398     .000
01436>        [CN= 76.0: N= 3.00: Tp=  .45]
01437> *****************************************************************************************
01438> # EXT6
01439> *****************************************************************************************
01440> R0050:C00009-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
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01441>     CALIB NASHYD          1.0 01:EXT6          .86     .055 No_date    1:40   34.45 .532     .000
01442>       [CN= 85.0: N= 3.00: Tp=  .56]
01443> #*******************************************************************************
01444> # EXT7
01445> #*******************************************************************************
01446> R0050:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01447>     CALIB NASHYD          1.0 01:EXT7          .47     .041 No_date    1:21   32.24 .498     .000
01448>       [CN= 83.0: N= 3.00: Tp=  .32]
01449> #*******************************************************************************
01450> # EXT8
01451> #*******************************************************************************
01452> R0050:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01453>     CALIB NASHYD          1.0 01:EXT8          .83     .052 No_date    1:30   28.33 .437     .000
01454>       [CN= 79.0: N= 3.00: Tp=  .42]
01455> #*******************************************************************************
01456> # EXT9
01457> #*******************************************************************************
01458> R0050:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01459>     CALIB NASHYD          1.0 01:EXT9         3.57     .183 No_date    1:35   25.77 .398     .000
01460>       [CN= 76.0: N= 3.00: Tp=  .48]
01461> #*******************************************************************************
01462> # EXT9a
01463> #*******************************************************************************
01464> R0050:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01465>     CALIB NASHYD          1.0 01:EXT9a         .01     .002 No_date    1:00   27.43 .423     .000
01466>       [CN= 78.0: N= 3.00: Tp=  .04]
01467> #*******************************************************************************
01468> # EXT10
01469> #*******************************************************************************
01470> R0050:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01471>     CALIB NASHYD          1.0 01:EXT10         .20     .010 No_date    1:30   22.06 .340     .000
01472>       [CN= 71.0: N= 3.00: Tp=  .42]
01473> #*******************************************************************************
01474> # Pre2_1
01475> #*******************************************************************************
01476> R0050:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01477> *   CALIB NASHYD          1.0 01:Pre2_1        .01     .002 No_date    1:00   22.75 .351     .000
01478>       [CN= 72.0: N= 3.00: Tp=  .03]
01479> #*******************************************************************************
01480> # Pre2_2
01481> #*******************************************************************************
01482> R0050:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01483> *   CALIB NASHYD          1.0 01:Pre2_2        .00     .000 No_date    1:00   27.40 .423     .000
01484>       [CN= 78.0: N= 3.00: Tp=  .02]
01485> #*******************************************************************************
01486> # Pre9_1
01487> #*******************************************************************************
01488> R0050:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01489>     CALIB NASHYD          1.0 01:Pre9_1        .44     .022 No_date    1:27   22.07 .340     .000
01490>       [CN= 71.0: N= 3.00: Tp=  .38]
01491> #*******************************************************************************
01492> # Pre9_2
01493> #*******************************************************************************
01494> R0050:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01495> *   CALIB NASHYD          1.0 01:Pre9_2        .01     .002 No_date    1:00   15.27 .236     .000
01496>       [CN= 59.0: N= 3.00: Tp=  .03]
01497> #*******************************************************************************
01498> # Pre10_1
01499> #*******************************************************************************
01500> R0050:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01501>     CALIB NASHYD          1.0 01:Pre10_1       .80     .048 No_date    1:20   22.07 .340     .000
01502>       [CN= 71.0: N= 3.00: Tp=  .29]
01503> #*******************************************************************************
01504> # Pre11_1
01505> #*******************************************************************************
01506> R0050:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01507>     CALIB NASHYD          1.0 01:Pre11_1       .07     .006 No_date    1:13   27.44 .423     .000
01508>       [CN= 78.0: N= 3.00: Tp=  .21]
01509> #*******************************************************************************
01510> # Site 1
01511> #*******************************************************************************
01512> R0050:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01513>     DESIGN STANDHYD       1.0 01:S1-B1         .42     .107 No_date    1:00   40.11 .619     .000
01514>       [XIMP=.34:TIMP=.44]
01515>       [SLP=1.00:DT= 1.00]
01516>       [LOSS= 1 : HORTONS]
01517> #*******************************************************************************
01518> # Site 1 - Roof
01519> #*******************************************************************************
01520> R0050:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01521>     DESIGN STANDHYD       1.0 01:S1-Roof       .06     .029 No_date    1:00   62.84 .970     .000
01522>       [XIMP=.99:TIMP=.99]
01523>       [SLP= .50:DT= 1.00]
01524>       [LOSS= 1 : HORTONS]
01525> R0050:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01526>     ROUTE RESERVOIR ->    1.0 02:S1-Roof       .06     .029 No_date    1:00   62.84  n/a     .000
01527>                     out <=    1.0 01:S1-Roof-Ou    .06     .003 No_date    1:30   62.84  n/a     .000
01528>                overflow <=    1.0 03:S1-Roof-Ov    .00     .000 No_date    0:00    .00  n/a     .000
01529>       (MxStoUsed=.2757E-02  m3, TotOvFVol=.0000E+00  m3, N-Ovf=     0, TotDurOvf=    0.hrs)
01530> R0050:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01531>     ADD HYD               1.0 02:S1-B1         .42     .107 No_date    1:00   40.11  n/a     .000
01532>                       +    1.0 02:S1-Roof-Ou    .06     .003 No_date    1:30   62.84  n/a     .000
01533>                       +    1.0 02:S1-Roof-Ov    .00     .000 No_date    0:00    .00  n/a     .000
01534>                     SUM=   1.0 01:SITE1-IN      .48     .109 No_date    1:00   43.19  n/a     .000
01535> R0050:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01536>     ROUTE RESERVOIR ->    1.0 02:SITE1-IN      .48     .109 No_date    1:00   43.19  n/a     .000
01537>                     out <=    1.0 01:SITE1-Out     .48     .008 No_date    1:50   43.19  n/a     .000
01538>                overflow <=    1.0 03:SITE1-Over    .00     .000 No_date    0:00    .00  n/a     .000
01539>       (MxStoUsed=.1343E-01  m3, TotOvFVol=.0000E+00  m3, N-Ovf=     0, TotDurOvf=    0.hrs)
01540> #*******************************************************************************
01541> # Site 2
01542> #*******************************************************************************
01543> R0050:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01544>     DESIGN STANDHYD       1.0 01:S2-B3         .35     .088 No_date    1:00   38.93 .601     .000
01545>       [XIMP=.31:TIMP=.41]
01546>       [SLP=1.00:DT= 1.00]
01547>       [LOSS= 1 : HORTONS]
01548> #*******************************************************************************
01549> # Site 2 - Roof
01550> #*******************************************************************************
01551> R0050:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01552>     DESIGN STANDHYD       1.0 01:S2-Roof       .09     .041 No_date    1:00   62.84 .970     .000
01553>       [XIMP=.99:TIMP=.99]
01554>       [SLP= .50:DT= 1.00]
01555>       [LOSS= 1 : HORTONS]
01556> #*******************************************************************************
01557> R0050:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01558>     ROUTE RESERVOIR ->    1.0 02:S2-Roof       .09     .041 No_date    1:00   62.84  n/a     .000
01559>                     out <=    1.0 01:S2-Roof-Ou    .09     .008 No_date    1:11   62.85  n/a     .000
01560>                overflow <=    1.0 03:S2-Roof-Ov    .00     .000 No_date    0:00    .00  n/a     .000
01561>       (MxStoUsed=.2863E-02  m3, TotOvFVol=.0000E+00  m3, N-Ovf=     0, TotDurOvf=    0.hrs)
01562> R0050:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01563>     ADD HYD               1.0 02:S2-B3         .35     .088 No_date    1:00   38.93  n/a     .000
01564>                       +    1.0 02:S2-Roof-Ou    .09     .008 No_date    1:11   62.85  n/a     .000
01565>                       +    1.0 02:S2-Roof-Ov    .00     .000 No_date    0:00    .00  n/a     .000
01566>                     SUM=   1.0 01:SITE2-IN      .45     .096 No_date    1:00   43.90  n/a     .000
01567> R0050:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01568>     ROUTE RESERVOIR ->    1.0 02:SITE2-IN      .45     .096 No_date    1:00   43.90  n/a     .000
01569>                     out <=    1.0 01:SITE2-Out     .45     .009 No_date    2:05   43.90  n/a     .000
01570>                overflow <=    1.0 03:SITE2-Over    .00     .000 No_date    0:00    .00  n/a     .000
01571>       (MxStoUsed=.1288E-01  m3, TotOvFVol=.0000E+00  m3, N-Ovf=     0, TotDurOvf=    0.hrs)
01572> R0050:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01573>     ADD HYD               1.0 02:SITE1-Out     .48     .008 No_date    1:50   43.19  n/a     .000
01574>                       +    1.0 02:SITE1-Over    .00     .000 No_date    0:00    .00  n/a     .000
01575>                     SUM=   1.0 01:Site1         .48     .008 No_date    1:50   43.19  n/a     .000
01576> R0050:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01577>     ADD HYD               1.0 02:SITE2-Out     .45     .009 No_date    2:05   43.90  n/a     .000
01578>                       +    1.0 02:SITE2-Over    .00     .000 No_date    0:00    .00  n/a     .000
01579>                     SUM=   1.0 01:Site2         .45     .009 No_date    2:05   43.90  n/a     .000
01580> R0050:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01581>     ADD HYD               1.0 02:EXT2          .28     .026 No_date    1:22   34.45  n/a     .000
01582>                       +    1.0 02:Pre2_1        .01     .002 No_date    1:00   22.75  n/a     .000
01583>                       +    1.0 02:Site1         .48     .008 No_date    1:50   43.19  n/a     .000
01584>                       +    1.0 02:Site2         .45     .009 No_date    2:05   43.90  n/a     .000
01585>                     SUM=   1.0 01:J1           1.23     .043 No_date    1:22   41.20  n/a     .000
01586> R0050:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01587>     ROUTE CHANNEL     ->    1.0 02:J1           1.23     .043 No_date    1:22   41.20  n/a     .000
01588>       [RDT= 1.00] out<-    1.0 01:R1           1.23     .041 No_date    1:29   41.20  n/a     .000
01589>        [L/S/n=  143./ .394/.035]
01590>        (Vmax=   .330:Dmax=  .134)
01591> R0050:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01592>     ADD HYD               1.0 02:R1           1.23     .041 No_date    1:29   41.20  n/a     .000
01593>                       +    1.0 02:EXT3          .56     .044 No_date    1:22   29.25  n/a     .000
01594>                       +    1.0 02:EXT1         3.21     .142 No_date    1:53   29.25  n/a     .000
01595>                     SUM=   1.0 01:J2           5.00     .205 No_date    1:41   32.18  n/a     .000
01596> R0050:C00036------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01597>     ROUTE CHANNEL     ->    1.0 02:J2           5.00     .205 No_date    1:41   32.18  n/a     .000
01598>       [RDT= 1.00] out<-    1.0 01:R2           5.00     .204 No_date    1:43   32.18  n/a     .000
01599>        [L/S/n=  73./ .425/.035]
01600>        (Vmax=   .495:Dmax=  .259)
01601> R0050:C00037------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01602>     ADD HYD               1.0 02:R2           5.00     .204 No_date    1:43   32.18  n/a     .000
01603>                       +    1.0 02:EXT4          .31     .025 No_date    1:19   28.33  n/a     .000
01604>                     SUM=   1.0 01:J3           5.31     .220 No_date    1:39   31.96  n/a     .000
01605> R0050:C00038------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01606>     ROUTE CHANNEL     ->    1.0 02:J3           5.31     .220 No_date    1:39   31.96  n/a     .000
01607>       [RDT= 1.00] out<-    1.0 01:R3           5.31     .219 No_date    1:43   31.96  n/a     .000
01608>        [L/S/n=  92./ .274/.035]
01609>        (Vmax=   .406:Dmax=  .268)
01610> R0050:C00039------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01611>     ADD HYD               1.0 02:R3           5.31     .219 No_date    1:43   31.96  n/a     .000
01612>                       +    1.0 02:EXT5          .59     .032 No_date    1:32   25.77  n/a     .000
01613>                     SUM=   1.0 01:J4           5.90     .249 No_date    1:41   31.33  n/a     .000
01614> R0050:C00040------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01615>     ROUTE CHANNEL     ->    1.0 02:J4           5.90     .249 No_date    1:41   31.33  n/a     .000
01616>       [RDT= 1.00] out<-    1.0 01:R4           5.90     .236 No_date    1:52   31.33  n/a     .000
01617>        [L/S/n=  251./ .190/.035]
01618>        (Vmax=   .399:Dmax=  .302)
01619> R0050:C00041------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01620>     ADD HYD               1.0 02:R4           5.90     .236 No_date    1:52   31.33  n/a     .000
01621>                       +    1.0 02:EXT6          .86     .055 No_date    1:40   34.45  n/a     .000
01622>                       +    1.0 02:EXT7          .47     .041 No_date    1:21   32.24  n/a     .000
01623>                     SUM=   1.0 01:J5           7.23     .312 No_date    1:46   31.76  n/a     .000
01624> R0050:C00042------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01625>     ROUTE CHANNEL     ->    1.0 02:J5           7.23     .312 No_date    1:46   31.76  n/a     .000
01626>       [RDT= 1.00] out<-    1.0 01:R5           7.23     .308 No_date    1:53   31.76  n/a     .000
01627>        [L/S/n=  237./ .644/.035]
01628>        (Vmax=   .650:Dmax=  .283)
01629> R0050:C00043------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01630>     ADD HYD               1.0 02:Pre10_1       .80     .048 No_date    1:20   22.07  n/a     .000
01631>                       +    1.0 02:Pre9_2        .01     .002 No_date    1:00   15.27  n/a     .000
01632>                       +    1.0 02:Pre2_2        .00     .000 No_date    1:00   27.40  n/a     .000
01633>                     SUM=   1.0 01:Pre           .81     .049 No_date    1:20   21.96  n/a     .000
01634> R0050:C00044------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01635>     ROUTE CHANNEL     ->    1.0 02:Pre          .81     .049 No_date    1:20   21.96  n/a     .000
01636>       [RDT= 1.00] out<-    1.0 01:R6           .81     .048 No_date    1:23   21.96  n/a     .000
01637>        [L/S/n=   77./ .776/.035]
01638>        (Vmax=  .492:Dmax=  .036)
01639> R0050:C00045------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01640>     ROUTE CHANNEL     ->    1.0 02:Pre9_1        .44     .022 No_date    1:27   22.07  n/a     .000
01641>       [RDT= 1.00] out<-    1.0 01:R7           .44     .022 No_date    1:31   22.07  n/a     .000
01642>        [L/S/n=  159./1.576/.035]
01643>        (Vmax=   .797:Dmax=  .007)
01644> R0050:C00046------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01645>     ADD HYD               1.0 02:R6           .81     .048 No_date    1:23   22.27  n/a     .000
01646>                       +    1.0 02:EXT10         .20     .010 No_date    1:30   22.06  n/a     .000
01647>                     SUM=   1.0 01:J6           1.02     .057 No_date    1:24   22.23  n/a     .000
01648> R0050:C00047------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01649>     ROUTE CHANNEL     ->    1.0 02:J6           1.02     .057 No_date    1:24   22.23  n/a     .000
01650>       [RDT= 1.00] out<-    1.0 01:R8           1.02     .057 No_date    1:27   22.23  n/a     .000
01651>        [L/S/n=   79./ .522/.035]
01652>        (Vmax=   .423:Dmax=  .042)
01653> R0050:C00048------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01654>     ADD HYD               1.0 02:R8           1.02     .057 No_date    1:27   22.39  n/a     .000
01655>                       +    1.0 02:R7           .44     .030 No_date    4:50   22.47  n/a     .000
01656>                     SUM=   1.0 01:J7           1.46     .078 No_date    1:28   22.42  n/a     .000
01657> R0050:C00049------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01658>     ROUTE CHANNEL     ->    1.0 02:J7           1.46     .078 No_date    1:28   22.42  n/a     .000
01659>       [RDT= 1.00] out<-    1.0 01:R9           1.46     .078 No_date    1:29   22.42  n/a     .000
01660>        [L/S/n=   29./ .887/.035]
01661>        (Vmax=   .543:Dmax=  .053)
01662> R0050:C00050------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01663>     ADD HYD               1.0 02:EXT9         3.57     .183 No_date    1:35   25.77  n/a     .000
01664>                       +    1.0 02:R9           1.46     .078 No_date    1:29   22.52  n/a     .000
01665>                       +    1.0 02:EXT8          .83     .052 No_date    1:30   28.33  n/a     .000
01666>                       +    1.0 02:R5           7.23     .308 No_date    1:53   31.76  n/a     .000
01667>                     SUM=   1.0 01:J8          13.09     .586 No_date    1:42   28.88  n/a     .000
01668> R0050:C00051------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01669>     ROUTE PIPE        ->    1.0 02:J8          13.09     .586 No_date    1:42   28.88  n/a     .000
01670> *   [RDT= 1.00] out<-    1.0 01:Outlet       13.09     .585 No_date    1:43   28.88  n/a     .000
01671>        [L/S/n=    8./ .010/.013]
01672>        [Vmax=  .435:Dmax=  1.147]
01673>        [Din=  .53:Dused= 1.40)
01674> ###############################################################################
01675> # STORMS
01676> ###############################################################################
01677>   ** END OF RUN :  98
01678>
01679> *******************************************************************************
01680>
01681>
01682>
01683>
01684>
01685> RUN#:COMMAND#
01686> R0099:C00001------------------------------------------------------------------------------
01687>      START
01688>       [TZERO =    .00 hrs on        0]
01689>       [METOUT=   2   (1=imperial, 2=metric output)]
01690>       [NSTORM=   1 ]
01691>       [NRUN  = 0099 ]
01692> #*******************************************************************************
01693> #  SWMHYMO  / INPUT DATA FILE
01694> #*******************************************************************************
01695> #  Project Name  : [5923 Ottawa St]
01696> #  Project Number: [P2710(e01)]
01697> #  Date          : [2025 April 28]
01698> #  Modeller      : [MM]
01699> #  Company       : JFSA Canada Inc.
01700> #  License #     : 2549237
01701> #*******************************************************************************
01702> # Model developed to simulate runoff from subcatchments under post development conditions
01703> #*******************************************************************************
01704> R0099:C00002------------------------------------------------------------------------------
01705>      READ STORM
01706>       Filename = STORM.001
01707>       Comment  = CHICAGO STORM   100 Year, 3 Hours
01708>       [SDT=10.00:SDUR=   3.00:PTOT=  71.66]
01709> #*******************************************************************************
01710> R0099:C00003------------------------------------------------------------------------------
01711>      DEFAULT VALUES
01712>       Filename = C:\Temp\20250910-PostDev\Ottawa.val
01713>       ICASEdv  = 1 (read and print data)
01714>       FileTitle= File comment: [Parameters for City of Ottawa Projects]
01715>                  THE FOLLOWING PARAMETERS ARE USED IN THE DESIGN STANDHYD COM
01716>       Horton's infiltration equation parameters:
01717>       [Fo= 76.20 mm/hr] [Fc=13.20 mm/hr] [DCAY= 4.14 /hr] [F=  .00 mm]
01718>       Parameters for PERVIOUS surfaces in STANDHYD:
01719>       [IApe=   4.67 mm] [LGP=40.00 m] [MNP= .250]
01720>       Parameters for IMPERVIOUS surfaces in STANDHYD:
01721>       [IAimp=   1.57 mm] [CLI= 1.50]   [MNI= .013]
01722>       Parameters used in NASHYD:
01723>       [Ia=   4.67 mm] [N= 3.00]
01724>       Average monthly Pan Evaporation data in    (mm)
01725>     JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
01726>     .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
01727>       Average monthly Potential Evapotranspiration in    (mm)
01728>     JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
01729>     .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
01730> #*******************************************************************************
01731> # EXT1
01732> #*******************************************************************************
01733> R0099:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01734>     CALIB NASHYD          1.0 01:EXT1         3.21     .167 No_date    1:52   34.39 .480     .000
01735>       [CN= 80.0: N= 3.00: Tp=  .72]
01736> #*******************************************************************************
01737> # EXT2
01738> #*******************************************************************************
01739> R0099:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01740>     CALIB NASHYD          1.0 01:EXT2          .28     .031 No_date    1:22   40.14 .560     .000
01741>       [CN= 85.0: N= 3.00: Tp=  .33]
01742> #*******************************************************************************
01743> # EXT3
01744> #*******************************************************************************
01745> R0099:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01746>     CALIB NASHYD          1.0 01:EXT3          .56     .052 No_date    1:21   34.39 .480     .000
01747>       [CN= 80.0: N= 3.00: Tp=  .32]
01748> #*******************************************************************************
01749> # EXT4
01750> #*******************************************************************************
01751> R0099:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01752>     CALIB NASHYD          1.0 01:EXT4          .31     .029 No_date    1:19   33.37 .466     .000
01753>       [CN= 79.0: N= 3.00: Tp=  .29]
01754> #*******************************************************************************
01755> # EXT5
01756> #*******************************************************************************
01757> R0099:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01758>     CALIB NASHYD          1.0 01:EXT5          .59     .038 No_date    1:32   30.49 .425     .000
01759>       [CN= 76.0: N= 3.00: Tp=  .45]
01760> #*******************************************************************************
01761> # EXT6
01762> #*******************************************************************************
01763> R0099:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01764>     CALIB NASHYD          1.0 01:EXT6          .86     .064 No_date    1:39   40.14 .560     .000
01765>       [CN= 85.0: N= 3.00: Tp=  .56]
01766> #*******************************************************************************
01767> # EXT7
01768> #*******************************************************************************
01769> R0099:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01770>     CALIB NASHYD          1.0 01:EXT7          .47     .048 No_date    1:21   37.71 .526     .000
01771>       [CN= 83.0: N= 3.00: Tp=  .32]
01772> #*******************************************************************************
01773> # EXT8
01774> #*******************************************************************************
01775> R0099:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01776>     CALIB NASHYD          1.0 01:EXT8          .83     .062 No_date    1:29   33.37 .466     .000
01777>       [CN= 79.0: N= 3.00: Tp=  .42]
01778> #*******************************************************************************
01779> # EXT9
01780> #*******************************************************************************
01781> R0099:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01782>     CALIB NASHYD          1.0 01:EXT9         3.57     .218 No_date    1:34   30.49 .425     .000
01783>       [CN= 76.0: N= 3.00: Tp=  .48]
01784> #*******************************************************************************
01785> # EXT9a
01786> #*******************************************************************************
01787> R0099:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01788>     CALIB NASHYD          1.0 01:EXT9a         .01     .003 No_date    1:00   32.37 .452     .000
01789>       [CN= 78.0: N= 3.00: Tp=  .04]
01790> #*******************************************************************************
01791> # EXT10
01792> #*******************************************************************************
01793> R0099:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01794>     CALIB NASHYD          1.0 01:EXT10         .20     .012 No_date    1:30   26.28 .367     .000
01795>       [CN= 71.0: N= 3.00: Tp=  .42]
01796> #*******************************************************************************
01797> # Pre2_1
01798> #*******************************************************************************
01799> R0099:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
01800> *   CALIB NASHYD          1.0 01:Pre2_1        .01     .003 No_date    1:00   27.07 .378     .000
```

```
      [CN= 72.0: N= 3.00: Tp=  .03]
********************************************************************************
# Pre2_2
********************************************************************************
R0099:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
 *  CALIB NASHYD            1.0 01:Pre2_2          .00     .001 No_date    1:00   32.36 .451    .000
      [CN= 78.0: N= 3.00: Tp=  .02]
********************************************************************************
# Pre9_1
********************************************************************************
R0099:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      CALIB NASHYD            1.0 01:Pre9_1          .44     .027 No_date    1:27   26.29 .367    .000
      [CN= 71.0: N= 3.00: Tp=  .38]
********************************************************************************
# Pre9_2
********************************************************************************
R0099:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
 *  CALIB NASHYD            1.0 01:Pre9_2          .01     .002 No_date    1:00   18.43 .257    .000
      [CN= 59.0: N= 3.00: Tp=  .03]
********************************************************************************
# Pre10_1
********************************************************************************
R0099:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      CALIB NASHYD            1.0 01:Pre10_1         .80     .058 No_date    1:20   26.29 .367    .000
      [CN= 71.0: N= 3.00: Tp=  .29]
********************************************************************************
# Pre11_1
********************************************************************************
R0099:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      CALIB NASHYD            1.0 01:Pre11_1         .07     .008 No_date    1:13   32.37 .452    .000
      [CN= 78.0: N= 3.00: Tp=  .21]
********************************************************************************
# Site 1
********************************************************************************
R0099:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      DESIGN STANDHYD         1.0 01:S1-B1           .42     .127 No_date    1:00   46.20 .645    .000
        [XIMP=.34:TIMP=.44]
        [SLP=1.00:DT= 1.00]
        [LOSS= 1 : HORTONS]
********************************************************************************
# Site 1 - Roof
********************************************************************************
R0099:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      DESIGN STANDHYD         1.0 01:S1-Roof         .06     .032 No_date    1:00   69.68 .972    .000
        [XIMP=.99:TIMP=.99]
        [SLP= .50:DT= 1.00]
        [LOSS= 1 : HORTONS]
********************************************************************************
R0099:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      ROUTE RESERVOIR ->      1.0 02:S1-Roof         .06     .032 No_date    1:00   69.68  n/a    .000
                  out <=      1.0 01:S1-Roof-Ou      .06     .003 No_date    1:12   69.70  n/a    .000
              overflow <=     1.0 03:S1-Roof-Ov      .00     .000 No_date    0:00     .00  n/a    .000
     {MxStoUsed=.3059E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0099:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      ADD HYD                 1.0 02:S1-B1           .42     .127 No_date    1:00   46.20  n/a    .000
                        +     1.0 02:S1-Roof-Ou      .06     .003 No_date    1:30   69.68  n/a    .000
                        +     1.0 02:S1-Roof-Ov      .00     .000 No_date    0:00     .00  n/a    .000
                      SUM=    1.0 01:S1TE1-IN        .48     .130 No_date    1:00   49.38  n/a    .000
R0099:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      ROUTE RESERVOIR ->      1.0 02:S1TE1-IN        .48     .130 No_date    1:00   49.38  n/a    .000
                  out <=      1.0 01:S1TE1-Out       .48     .008 No_date    1:51   49.38  n/a    .000
              overflow <=     1.0 03:S1TE1-Over      .00     .000 No_date    0:00     .00  n/a    .000
     {MxStoUsed=.1579E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
********************************************************************************
# Site 2
********************************************************************************
R0099:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      DESIGN STANDHYD         1.0 01:S2-B3           .35     .105 No_date    1:00   44.99 .628    .000
        [XIMP=.31:TIMP=.41]
        [SLP=1.00:DT= 1.00]
        [LOSS= 1 : HORTONS]
********************************************************************************
# Site 2 - Roof
********************************************************************************
R0099:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      DESIGN STANDHYD         1.0 01:S2-Roof         .09     .046 No_date    1:00   69.68 .972    .000
        [XIMP=.99:TIMP=.99]
        [SLP= .50:DT= 1.00]
        [LOSS= 1 : HORTONS]
********************************************************************************
R0099:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      ROUTE RESERVOIR ->      1.0 02:S2-Roof         .09     .046 No_date    1:00   69.68  n/a    .000
                  out <=      1.0 01:S2-Roof-Ou      .09     .009 No_date    1:12   69.70  n/a    .000
              overflow <=     1.0 03:S2-Roof-Ov      .00     .000 No_date    0:00     .00  n/a    .000
     {MxStoUsed=.3248E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0099:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      ADD HYD                 1.0 02:S2-B3           .35     .105 No_date    1:00   44.99  n/a    .000
                        +     1.0 02:S2-Roof-Ou      .09     .009 No_date    1:12   69.70  n/a    .000
                        +     1.0 02:S2-Roof-Ov      .00     .000 No_date    0:00     .00  n/a    .000
                      SUM=    1.0 01:S1TE2-IN        .45     .114 No_date    1:00   50.13  n/a    .000
R0099:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      ROUTE RESERVOIR ->      1.0 02:S1TE2-IN        .45     .114 No_date    1:00   50.13  n/a    .000
                  out <=      1.0 01:S1TE2-Out       .45     .009 No_date    2:11   50.13  n/a    .000
              overflow <=     1.0 03:S1TE2-Over      .00     .000 No_date    0:00     .00  n/a    .000
     {MxStoUsed=.1499E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0099:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      ADD HYD                 1.0 02:S1TE1-Out       .48     .008 No_date    1:51   49.38  n/a    .000
                        +     1.0 02:S1TE1-Over      .00     .000 No_date    0:00     .00  n/a    .000
                      SUM=    1.0 01:Site1           .48     .008 No_date    1:51   49.38  n/a    .000
R0099:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      ADD HYD                 1.0 02:S1TE2-Out       .45     .009 No_date    2:11   50.13  n/a    .000
                        +     1.0 02:S1TE2-Over      .00     .000 No_date    0:00     .00  n/a    .000
                      SUM=    1.0 01:Site2           .45     .009 No_date    2:11   50.13  n/a    .000
R0099:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      ADD HYD                 1.0 02:EXT2            .28     .031 No_date    1:22   40.14  n/a    .000
                        +     1.0 02:Pre2_1          .01     .003 No_date    1:00   27.07  n/a    .000
                        +     1.0 02:Site1           .48     .008 No_date    1:51   49.38  n/a    .000
                        +     1.0 02:Site2           .45     .009 No_date    2:11   50.13  n/a    .000
                      SUM=    1.0 01:J1              1.23    .048 No_date    1:22   47.27  n/a    .000
R0099:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      ROUTE CHANNEL   ->      1.0 02:J1              1.23    .048 No_date    1:22   47.27  n/a    .000
        [RDT= 1.00] out<-     1.0 01:R1              1.23    .047 No_date    1:28   47.27  n/a    .000
        [L/S/n=  143./ .394/.035]
        [Vmax=  .344:Dmax=  .141]
R0099:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      ADD HYD                 1.0 02:R1              1.23    .047 No_date    1:28   47.27  n/a    .000
                        +     1.0 02:EXT3            .56     .052 No_date    1:21   34.39  n/a    .000
                        +     1.0 02:EXT1            3.21    .167 No_date    1:52   34.39  n/a    .000
                      SUM=    1.0 01:J2              5.00    .239 No_date    1:41   37.55  n/a    .000
R0099:C00036------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      ROUTE CHANNEL   ->      1.0 02:J2              5.00    .239 No_date    1:41   37.55  n/a    .000
        [RDT= 1.00] out<-     1.0 01:R2              5.00    .239 No_date    1:42   37.55  n/a    .000
        [L/S/n=   73./ .425/.035]
        [Vmax=  .517:Dmax=  .276]
R0099:C00037------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      ADD HYD                 1.0 02:R2              5.00    .239 No_date    1:42   37.55  n/a    .000
                        +     1.0 02:EXT4            .31     .029 No_date    1:19   33.37  n/a    .000
                      SUM=    1.0 01:J3              5.31    .258 No_date    1:39   37.31  n/a    .000
R0099:C00038------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      ROUTE CHANNEL   ->      1.0 02:J3              5.31    .258 No_date    1:39   37.31  n/a    .000
        [RDT= 1.00] out<-     1.0 01:R3              5.31    .256 No_date    1:42   37.31  n/a    .000
        [L/S/n=   92./ .274/.035]
        [Vmax=  .423:Dmax=  .285]
R0099:C00039------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      ADD HYD                 1.0 02:R3              5.31    .256 No_date    1:42   37.31  n/a    .000
                        +     1.0 02:EXT5            .59     .038 No_date    1:32   30.49  n/a    .000
                      SUM=    1.0 01:J4              5.90    .292 No_date    1:40   36.62  n/a    .000
R0099:C00040------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      ROUTE CHANNEL   ->      1.0 02:J4              5.90    .292 No_date    1:40   36.62  n/a    .000
        [RDT= 1.00] out<-     1.0 01:R4              5.90    .278 No_date    1:51   36.62  n/a    .000
        [L/S/n=  251./ .190/.035]
        [Vmax=  .418:Dmax=  .324]
R0099:C00041------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      ADD HYD                 1.0 02:R4              5.90    .278 No_date    1:51   36.62  n/a    .000
                        +     1.0 02:EXT6            .86     .064 No_date    1:39   40.14  n/a    .000
                        +     1.0 02:EXT7            .47     .048 No_date    1:21   37.71  n/a    .000
                      SUM=    1.0 01:J5              7.23    .368 No_date    1:45   37.11  n/a    .000
R0099:C00042------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      ROUTE CHANNEL   ->      1.0 02:J5              7.23    .368 No_date    1:45   37.11  n/a    .000
        [RDT= 1.00] out<-     1.0 01:R5              7.23    .364 No_date    1:50   37.11  n/a    .000
        [L/S/n=  237./ .644/.035]
        [Vmax=  .689:Dmax=  .305]
R0099:C00043------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      ADD HYD                 1.0 02:Pre10_1         .80     .058 No_date    1:20   26.29  n/a    .000
                        +     1.0 02:Pre9_2          .01     .002 No_date    1:00   18.43  n/a    .000
                        +     1.0 02:Pre2_2          .00     .001 No_date    1:00   32.36  n/a    .000
                      SUM=    1.0 01:Pre             .81     .059 No_date    1:20   26.17  n/a    .000
R0099:C00044------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      ROUTE CHANNEL   ->      1.0 02:Pre             .81     .059 No_date    1:20   26.17  n/a    .000
        [RDT= 1.00] out<-     1.0 01:R6              .81     .058 No_date    1:22   26.17  n/a    .000
        [L/S/n=   77./ .776/.035]
        [Vmax=  .492:Dmax=  .043]
R0099:C00045------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      ROUTE CHANNEL   ->      1.0 02:Pre9_1          .44     .027 No_date    1:27   26.29  n/a    .000
        [RDT= 1.00] out<-     1.0 01:R7              .44     .026 No_date    1:30   26.29  n/a    .000
        [L/S/n=  159./1.576/.035]
        [Vmax=  .797:Dmax=  .008]
R0099:C00046------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      ADD HYD                 1.0 02:R6              .81     .058 No_date    1:22   26.50  n/a    .000
                        +     1.0 02:EXT10           .20     .012 No_date    1:30   26.28  n/a    .000
                      SUM=    1.0 01:J6              1.02    .069 No_date    1:23   26.46  n/a    .000
R0099:C00047------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      ROUTE CHANNEL   ->      1.0 02:J6              1.02    .069 No_date    1:23   26.46  n/a    .000
        [RDT= 1.00] out<-     1.0 01:R8              1.02    .068 No_date    1:27   26.46  n/a    .000
        [L/S/n=   79./ .522/.035]
        [Vmax=  .423:Dmax=  .051]
R0099:C00048------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      ADD HYD                 1.0 02:R8              1.02    .068 No_date    1:27   26.63  n/a    .000
                        +     1.0 02:R7              .44     .032 No_date    4:51   26.73  n/a    .000
                      SUM=    1.0 01:J7              1.46    .094 No_date    1:28   26.66  n/a    .000
R0099:C00049------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      ROUTE CHANNEL   ->      1.0 02:J7              1.46    .094 No_date    1:28   26.66  n/a    .000
        [RDT= 1.00] out<-     1.0 01:R9              1.46    .094 No_date    1:29   26.66  n/a    .000
        [L/S/n=   29./ .887/.035]
        [Vmax=  .543:Dmax=  .064]
R0099:C00050------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      ADD HYD                 1.0 02:EXT9            3.57    .218 No_date    1:34   30.49  n/a    .000
                        +     1.0 02:R9              1.46    .094 No_date    1:29   26.77  n/a    .000
                        +     1.0 02:EXT8             .83    .062 No_date    1:29   33.37  n/a    .000
                        +     1.0 02:R5              7.23    .364 No_date    1:50   37.11  n/a    .000
                      SUM=    1.0 01:J8              13.09   .700 No_date    1:41   33.92  n/a    .000
R0099:C00051------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      ROUTE PIPE      ->      1.0 02:J8              13.09   .700 No_date    1:41   33.92  n/a    .000
 *  [RDT= 1.00] out<-     1.0 01:Outlet          13.09   .700 No_date    1:41   33.92  n/a    .000
        [L/S/n=   8./ .010/.013]
        [Vmax=  .455:Dmax= 1.227)
        [Din=  .53:Dused= 1.49)
########################################################################
# STORMS
########################################################################
   ** END OF RUN :  101


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

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

RUN#:COMMAND#
R0102:C00001------------------------------------------------------------------------
      START
        [TZERO =    .00 hrs on        0]
        [METOUT=   2   (1=imperial, 2=metric output)]
        [NSTORM=   1 ]
        [NRUN  = 0102 ]
********************************************************************************
#  SWMHYMO  / INPUT DATA FILE
********************************************************************************
#  Project Name  : [5923 Ottawa St]
#  Project Number: [P2710(e01)]
#  Date          : [2025 April 28]
#  Modeller      : [MM]
#  Company       : JFSA Canada Inc.
#  License #     : 2549237
********************************************************************************
# Model developed to simulate runoff from subcatchments under post development conditions
********************************************************************************
R0102:C00002------------------------------------------------------------------------
      READ STORM
        Filename = STORM.001
        Comment  = 2 years SCS Type 2 Storm 24 Hours step 10 min, City of Ottawa
        [SDT=10.00:SDUR=  24.00:PTOT=  48.46]
********************************************************************************
R0102:C00003------------------------------------------------------------------------
      DEFAULT VALUES
        Filename = C:\Temp\20250910-PostDev\Ottawa.val
        ICASEdv  = 1 (read and print data)
        FileTitle= File comment: [Parameters for City of Ottawa Projects]
        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=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=   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
********************************************************************************
# EXT1
********************************************************************************
R0102:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      CALIB NASHYD            1.0 01:EXT1            3.21    .058 No_date    12:42  17.87 .369    .000
      [CN= 80.0: N= 3.00: Tp=  .72]
********************************************************************************
# EXT2
********************************************************************************
R0102:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      CALIB NASHYD            1.0 01:EXT2            .28     .011 No_date    12:14  21.63 .446    .000
      [CN= 85.0: N= 3.00: Tp=  .33]
********************************************************************************
# EXT3
********************************************************************************
R0102:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      CALIB NASHYD            1.0 01:EXT3            .56     .018 No_date    12:13  17.87 .369    .000
      [CN= 80.0: N= 3.00: Tp=  .32]
********************************************************************************
# EXT4
********************************************************************************
R0102:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      CALIB NASHYD            1.0 01:EXT4            .31     .010 No_date    12:12  17.22 .355    .000
      [CN= 79.0: N= 3.00: Tp=  .29]
********************************************************************************
# EXT5
********************************************************************************
R0102:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      CALIB NASHYD            1.0 01:EXT5            .59     .013 No_date    12:22  15.46 .319    .000
      [CN= 76.0: N= 3.00: Tp=  .45]
********************************************************************************
# EXT6
********************************************************************************
R0102:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      CALIB NASHYD            1.0 01:EXT6            .86     .023 No_date    12:30  21.64 .446    .000
      [CN= 85.0: N= 3.00: Tp=  .56]
********************************************************************************
# EXT7
********************************************************************************
R0102:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      CALIB NASHYD            1.0 01:EXT7            .47     .017 No_date    12:13  20.01 .413    .000
      [CN= 83.0: N= 3.00: Tp=  .32]
********************************************************************************
# EXT8
********************************************************************************
R0102:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      CALIB NASHYD            1.0 01:EXT8            .83     .021 No_date    12:20  17.22 .355    .000
      [CN= 79.0: N= 3.00: Tp=  .42]
********************************************************************************
# EXT9
********************************************************************************
R0102:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      CALIB NASHYD            1.0 01:EXT9            3.57    .074 No_date    12:25  15.46 .319    .000
      [CN= 76.0: N= 3.00: Tp=  .48]
********************************************************************************
# EXT9a
********************************************************************************
R0102:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      CALIB NASHYD            1.0 01:EXT9a           .01     .001 No_date    12:00  16.59 .342    .000
      [CN= 78.0: N= 3.00: Tp=  .04]
********************************************************************************
# EXT10
********************************************************************************
R0102:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      CALIB NASHYD            1.0 01:EXT10           .20     .004 No_date    12:20  12.99 .268    .000
      [CN= 71.0: N= 3.00: Tp=  .42]
********************************************************************************
# Pre2_1
********************************************************************************
R0102:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
 *  CALIB NASHYD            1.0 01:Pre2_1          .01     .001 No_date    12:00  13.44 .277    .000
      [CN= 72.0: N= 3.00: Tp=  .03]
********************************************************************************
# Pre2_2
********************************************************************************
R0102:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
 *  CALIB NASHYD            1.0 01:Pre2_2          .00     .000 No_date    12:00  16.60 .343    .000
      [CN= 78.0: N= 3.00: Tp=  .02]
********************************************************************************
# Pre9_1
********************************************************************************
R0102:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      CALIB NASHYD            1.0 01:Pre9_1          .44     .009 No_date    12:18  12.99 .268    .000
      [CN= 71.0: N= 3.00: Tp=  .38]
********************************************************************************
# Pre9_2
********************************************************************************
R0102:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
 *  CALIB NASHYD            1.0 01:Pre9_2          .01     .001 No_date    12:00   8.70 .179    .000
      [CN= 59.0: N= 3.00: Tp=  .03]
********************************************************************************
# Pre10_1
********************************************************************************
R0102:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      CALIB NASHYD            1.0 01:Pre10_1         .80     .020 No_date    12:12  12.99 .268    .000
      [CN= 71.0: N= 3.00: Tp=  .29]
********************************************************************************
# Pre11_1
********************************************************************************
R0102:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      CALIB NASHYD            1.0 01:Pre11_1         .07     .003 No_date    12:07  16.60 .343    .000
      [CN= 78.0: N= 3.00: Tp=  .21]
********************************************************************************
# Site 1
********************************************************************************
R0102:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      DESIGN STANDHYD         1.0 01:S1-B1           .42     .034 No_date    12:00  22.59 .466    .000
        [XIMP=.34:TIMP=.44]
```

```
02161>       [SLP=1.00:DT= 1.00]
02162>       [LOSS= 1 : HORTONS]
02163> *******************************************************************************
02164> # Site 1 - Roof
02165> *******************************************************************************
02166> R0102:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02167>      DESIGN STANDHYD       1.0 01:S1-Roof          .06     .011 No_date   12:00   46.49 .959     .000
02168>        [XIMP=.99:TIMF=.99]
02169>        [SLP=  .50:DT= 1.00]
02170>        [LOSS= 1 : HORTONS]
02171> R0102:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02172>      ROUTE RESERVOIR ->    1.0 02:S1-Roof          .06     .011 No_date   12:00   46.49  n/a     .000
02173>                      out <=    1.0 01:S1-Roof-Ou     .06     .001 No_date   12:07   46.49  n/a     .000
02174>                overflow <=    1.0 03:S1-Roof-Ov     .00     .000 No_date    0:00     .00  n/a     .000
02175>      {MxStoUsed=.1393E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
02176> R0102:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02177>      ADD HYD               1.0 02:S1-B1            .42     .034 No_date   12:00   22.59  n/a     .000
02178>                        +     1.0 02:S1-Roof-Ou     .06     .001 No_date   12:07   46.49  n/a     .000
02179>                        +     1.0 02:S1-Roof-Ov     .00     .000 No_date    0:00     .00  n/a     .000
02180>                      SUM=    1.0 01:SITE1-IN       .48     .036 No_date   12:00   25.82  n/a     .000
02181> R0102:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02182>      ROUTE RESERVOIR ->    1.0 02:SITE1-IN       .48     .036 No_date   12:00   25.82  n/a     .000
02183>                      out <=    1.0 01:SITE1-Out      .48     .006 No_date   12:35   25.82  n/a     .000
02184>                overflow <=    1.0 03:SITE1-Over     .00     .000 No_date    0:00     .00  n/a     .000
02185>      {MxStoUsed=.4323E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
02186> *******************************************************************************
02187> # Site 2
02188> *******************************************************************************
02189> R0102:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02190>      DESIGN STANDHYD       1.0 01:S2-B3            .35     .028 No_date   12:00   21.44 .442     .000
02191>        [XIMP=.31:TIMF=.41]
02192>        [SLP=1.00:DT= 1.00]
02193>        [LOSS= 1 : HORTONS]
02194> *******************************************************************************
02195> # Site 2 - Roof
02196> *******************************************************************************
02197> R0102:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02198>      DESIGN STANDHYD       1.0 01:S2-Roof          .09     .015 No_date   12:00   46.49 .959     .000
02199>        [XIMP=.99:TIMF=.99]
02200>        [SLP=  .50:DT= 1.00]
02201>        [LOSS= 1 : HORTONS]
02202> *******************************************************************************
02203> R0102:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02204>      ROUTE RESERVOIR ->    1.0 02:S2-Roof          .09     .015 No_date   12:00   46.49  n/a     .000
02205>                      out <=    1.0 01:S2-Roof-Ou     .09     .006 No_date   12:03   46.49  n/a     .000
02206>                overflow <=    1.0 03:S2-Roof-Ov     .00     .000 No_date    0:00     .00  n/a     .000
02207>      {MxStoUsed=.1067E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
02208> R0102:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02209>      ADD HYD               1.0 02:S2-B3            .35     .028 No_date   12:00   21.44  n/a     .000
02210>                        +     1.0 02:S2-Roof-Ou     .09     .006 No_date   12:03   46.49  n/a     .000
02211>                        +     1.0 02:S2-Roof-Ov     .00     .000 No_date    0:00     .00  n/a     .000
02212>                      SUM=    1.0 01:SITE2-IN       .45     .034 No_date   12:00   26.65  n/a     .000
02213> R0102:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02214>      ROUTE RESERVOIR ->    1.0 02:SITE2-IN       .45     .034 No_date   12:00   26.65  n/a     .000
02215>                      out <=    1.0 01:SITE2-Out      .45     .007 No_date   12:38   26.65  n/a     .000
02216>                overflow <=    1.0 03:SITE2-Over     .00     .000 No_date    0:00     .00  n/a     .000
02217>      {MxStoUsed=.4496E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
02218> R0102:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02219>      ADD HYD               1.0 02:SITE1-Out        .48     .006 No_date   12:35   25.82  n/a     .000
02220>                        +     1.0 02:SITE1-Over     .00     .000 No_date    0:00     .00  n/a     .000
02221>                      SUM=    1.0 01:Site1          .48     .006 No_date   12:35   25.82  n/a     .000
02222> R0102:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02223>      ADD HYD               1.0 02:SITE2-Out        .45     .007 No_date   12:38   26.65  n/a     .000
02224>                        +     1.0 02:SITE2-Over     .00     .000 No_date    0:00     .00  n/a     .000
02225>                      SUM=    1.0 01:Site2          .45     .007 No_date   12:38   26.65  n/a     .000
02226> R0102:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02227>      ADD HYD               1.0 02:EXT2             .28     .011 No_date   12:14   21.63  n/a     .000
02228>                        +     1.0 02:Pre2_1         .01     .001 No_date   12:00   13.44  n/a     .000
02229>                        +     1.0 02:Site1          .48     .006 No_date   12:35   25.82  n/a     .000
02230>                        +     1.0 02:Site2          .45     .007 No_date   12:38   26.65  n/a     .000
02231>                      SUM=    1.0 01:J1             1.23     .024 No_date   12:16   25.02  n/a     .000
02232> R0102:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02233>      ROUTE CHANNEL   ->    1.0 02:J1             1.23     .024 No_date   12:16   25.02  n/a     .000
02234>        [RD= 1.00] out<-    1.0 01:R1             1.23     .023 No_date   12:23   25.02  n/a     .000
02235>        [L/S/n=  143./ .394/.035]
02236>        {Vmax=  .279:Dmax=  .103}
02237> R0102:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02238>      ADD HYD               1.0 02:R1             1.23     .023 No_date   12:23   25.02  n/a     .000
02239>                        +     1.0 02:EXT3           .56     .018 No_date   12:13   17.87  n/a     .000
02240>                        +     1.0 02:EXT1          3.21     .058 No_date   12:42   17.87  n/a     .000
02241>                      SUM=    1.0 01:J2             5.00     .091 No_date   12:31   19.62  n/a     .000
02242> R0102:C00036------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02243>      ROUTE CHANNEL   ->    1.0 02:J2             5.00     .091 No_date   12:31   19.62  n/a     .000
02244>        [RD= 1.00] out<-    1.0 01:R2             5.00     .091 No_date   12:33   19.62  n/a     .000
02245>        [L/S/n=   73./ .425/.035]
02246>        {Vmax=  .399:Dmax=  .186}
02247> R0102:C00037------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02248>      ADD HYD               1.0 02:R2             5.00     .091 No_date   12:33   19.62  n/a     .000
02249>                        +     1.0 02:EXT4           .31     .010 No_date   12:12   17.22  n/a     .000
02250>                      SUM=    1.0 01:J3             5.31     .097 No_date   12:30   19.48  n/a     .000
02251> R0102:C00038------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02252>      ROUTE CHANNEL   ->    1.0 02:J3             5.31     .097 No_date   12:30   19.48  n/a     .000
02253>        [RD= 1.00] out<-    1.0 01:R3             5.31     .096 No_date   12:34   19.48  n/a     .000
02254>        [L/S/n=   92./ .274/.035]
02255>        {Vmax=  .327:Dmax=  .193}
02256> R0102:C00039------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02257>      ADD HYD               1.0 02:R3             5.31     .096 No_date   12:34   19.48  n/a     .000
02258>                        +     1.0 02:EXT5           .59     .013 No_date   12:22   15.46  n/a     .000
02259>                      SUM=    1.0 01:J4             5.90     .108 No_date   12:32   19.08  n/a     .000
02260> R0102:C00040------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02261>      ROUTE CHANNEL   ->    1.0 02:J4             5.90     .108 No_date   12:32   19.08  n/a     .000
02262>        [RD= 1.00] out<-    1.0 01:R4             5.90     .100 No_date   12:45   19.08  n/a     .000
02263>        [L/S/n=  251./ .190/.035]
02264>        {Vmax=  .310:Dmax=  .210}
02265> R0102:C00041------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02266>      ADD HYD               1.0 02:R4             5.90     .100 No_date   12:45   19.08  n/a     .000
02267>                        +     1.0 02:EXT6           .86     .023 No_date   12:30   21.64  n/a     .000
02268>                        +     1.0 02:EXT7           .47     .017 No_date   12:13   20.01  n/a     .000
02269>                      SUM=    1.0 01:J5             7.23     .130 No_date   12:39   19.44  n/a     .000
02270> R0102:C00042------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02271>      ROUTE CHANNEL   ->    1.0 02:J5             7.23     .130 No_date   12:39   19.44  n/a     .000
02272>        [RD= 1.00] out<-    1.0 01:R5             7.23     .128 No_date   12:46   19.44  n/a     .000
02273>        [L/S/n=  237./ .644/.035]
02274>        {Vmax=  .503:Dmax=  .201}
02275> R0102:C00043------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02276>      ADD HYD               1.0 02:Pre10_1          .80     .020 No_date   12:12   12.99  n/a     .000
02277>                        +     1.0 02:Pre9_2         .01     .001 No_date   12:00    8.70  n/a     .000
02278>                        +     1.0 02:Pre2_2         .00     .000 No_date   12:00   16.60  n/a     .000
02279>                      SUM=    1.0 01:Pre            .81     .020 No_date   12:12   12.93  n/a     .000
02280> R0102:C00044------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02281>      ROUTE CHANNEL   ->    1.0 02:Pre            .81     .020 No_date   12:12   12.93  n/a     .000
02282>        [RD= 1.00] out<-    1.0 01:R6             .81     .019 No_date   12:15   12.93  n/a     .000
02283>        [L/S/n=   77./ .776/.035]
02284>        {Vmax=  .492:Dmax=  .014}
02285> R0102:C00045------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02286>      ROUTE CHANNEL   ->    1.0 02:Pre9_1         .44     .009 No_date   12:18   12.99  n/a     .000
02287>        [RD= 1.00] out<-    1.0 01:R7             .44     .009 No_date   12:21   12.99  n/a     .000
02288>        [L/S/n=  159./1.576/.035]
02289>        {Vmax=  .797:Dmax=  .003}
02290> R0102:C00046------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02291>      ADD HYD               1.0 02:R6             .81     .019 No_date   12:15   12.96  n/a     .000
02292>                        +     1.0 02:EXT10          .20     .004 No_date   12:20   12.99  n/a     .000
02293>                      SUM=    1.0 01:J6             1.02     .023 No_date   12:15   12.97  n/a     .000
02294> R0102:C00047------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02295>      ROUTE CHANNEL   ->    1.0 02:J6             1.02     .023 No_date   12:15   12.97  n/a     .000
02296>        [RD= 1.00] out<-    1.0 01:R8             1.02     .023 No_date   12:19   12.97  n/a     .000
02297>        [L/S/n=   79./ .522/.035]
02298>        {Vmax=  .423:Dmax=  .017}
02299> R0102:C00048------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02300>      ADD HYD               1.0 02:R8             1.02     .023 No_date   12:19   12.99  n/a     .000
02301>                        +     1.0 02:R7             .44     .009 No_date   12:21   13.02  n/a     .000
02302>                      SUM=    1.0 01:J7             1.46     .031 No_date   12:19   13.01  n/a     .000
02303> R0102:C00049------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02304>      ROUTE CHANNEL   ->    1.0 02:J7             1.46     .031 No_date   12:19   13.01  n/a     .000
02305>        [RD= 1.00] out<-    1.0 01:R9             1.46     .031 No_date   12:20   13.01  n/a     .000
02306>        [L/S/n=   29./ .887/.035]
02307>        {Vmax=  .543:Dmax=  .021}
02308> R0102:C00050------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02309>      ADD HYD               1.0 02:EXT9           3.57     .074 No_date   12:25   15.46  n/a     .000
02310>                        +     1.0 02:R9             1.46     .031 No_date   12:20   13.02  n/a     .000
02311>                        +     1.0 02:EXT8           .83     .021 No_date   12:20   17.22  n/a     .000
02312>                        +     1.0 02:R5             7.23     .128 No_date   12:46   19.44  n/a     .000
02313>                      SUM=    1.0 01:J8            13.09     .234 No_date   12:33   17.50  n/a     .000
02314> R0102:C00051------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02315>      ROUTE PIPE      ->    1.0 02:J8            13.09     .234 No_date   12:33   17.50  n/a     .000
02316> *    [RD= 1.00] out<-    1.0 01:Outlet         13.09     .232 No_date   12:37   17.50  n/a     .000
02317>        [L/S/n=    8./ .010/.013]
02318>        {Vmax=  .346:Dmax=  .813}
02319>        {Din=  .53:Dused=  .99}
02320> ###############################################################################
02321> # STORMS
02322> ###############################################################################
02323>  ** END OF RUN :  104
02324>
02325> *******************************************************************************
02326>
02327>
02328>
02329>
02330>
02331>  RUN#:COMMAND#
02332> R0105:C00001------------
02333>       START
02334>         [TZERO =     .00 hrs on        0]
02335>         [METOUT=   2     (1=imperial, 2=metric output)]
02336>         [NSTORM=   1 ]
02337>         [NRUN  = 0105 ]
02338> *******************************************************************************
02339> #  SWMHYMO / INPUT DATA FILE
02340> *******************************************************************************
02341> #  Project Name  : [5923 Ottawa St]
02342> #  Project Number: [P2710(e01)]
02343> #  Date          : [2025 April 28]
02344> #  Modeller      : [MM]
02345> #  Company       : JFSA Canada Inc.
02346> #  License #     : 2549237
02347> *******************************************************************************
02348> # Model developed to simulate runoff from subcatchments under post development conditions
02349> *******************************************************************************
02350> R0105:C00002------------------------------------------------------------------------------
02351>       READ STORM
02352>         Filename = STORM.001
02353>         Comment  = 5 years SCS Type 2 Storm 24 Hours step 10 min, City of Ottawa
02354>         [SDT=10.00:SDUR=  24.00:PTOT=  64.11]
02355> *******************************************************************************
02356> R0105:C00003------------------------------------------------------------------------------
02357>       DEFAULT VALUES
02358>         Filename = C:\Temp\20250910-PostDev\Ottawa.val
02359>         ICASEdv  = 1 (read and print data)
02360>         FileTitle= File comment: [Parameters for City of Ottawa Projects]
02361>                    THE FOLLOWING PARAMETERS ARE USED IN THE DESIGN STANDHYD COM
02362>         Horton's infiltration equation parameters:
02363>         [Fo= 76.20 mm/hr] [Fc=13.20 mm/hr] [DCAY= 4.14 /hr] [F=  .00 mm]
02364>         Parameters for PERVIOUS surfaces in STANDHYD:
02365>         [IAper=   4.67 mm] [LGP=40.00 m] [MMP= .250]
02366>         Parameters for IMPERVIOUS surfaces in STANDHYD:
02367>         [IAimp=   1.57 mm] [CLI= 1.50]   [MNI= .013]
02368>         Parameters used in NASHYD:
02369>         [Ia=   4.67 mm] [N= 3.00]
02370>         Average monthly Pan Evaporation data in    (mm)
02371>    JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
02372>   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
02373>         Average monthly Potential Evapotranspiration in    (mm)
02374>    JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
02375>   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
02376> *******************************************************************************
02377> # EXT1
02378> *******************************************************************************
02379> R0105:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02380>      CALIB NASHYD          1.0 01:EXT1           3.21     .095 No_date   12:41   28.73 .448     .000
02381>        [CN= 80.0: N= 3.00: Tp=  .72]
02382> *******************************************************************************
02383> # EXT2
02384> *******************************************************************************
02385> R0105:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02386>      CALIB NASHYD          1.0 01:EXT2           .28     .018 No_date   12:13   33.88 .529     .000
02387>        [CN= 85.0: N= 3.00: Tp=  .33]
02388> *******************************************************************************
02389> # EXT3
02390> *******************************************************************************
02391> R0105:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02392>      CALIB NASHYD          1.0 01:EXT3           .56     .030 No_date   12:13   28.73 .448     .000
02393>        [CN= 80.0: N= 3.00: Tp=  .32]
02394> *******************************************************************************
02395> # EXT4
02396> *******************************************************************************
02397> R0105:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02398>      CALIB NASHYD          1.0 01:EXT4           .31     .017 No_date   12:11   27.82 .434     .000
02399>        [CN= 79.0: N= 3.00: Tp=  .29]
02400> *******************************************************************************
02401> # EXT5
02402> *******************************************************************************
02403> R0105:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02404>      CALIB NASHYD          1.0 01:EXT5           .59     .021 No_date   12:22   25.29 .395     .000
02405>        [CN= 76.0: N= 3.00: Tp=  .45]
02406> *******************************************************************************
02407> # EXT6
02408> *******************************************************************************
02409> R0105:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02410>      CALIB NASHYD          1.0 01:EXT6           .86     .037 No_date   12:29   33.88 .529     .000
02411>        [CN= 85.0: N= 3.00: Tp=  .56]
02412> *******************************************************************************
02413> # EXT7
02414> *******************************************************************************
02415> R0105:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02416>      CALIB NASHYD          1.0 01:EXT7           .47     .028 No_date   12:13   31.69 .494     .000
02417>        [CN= 83.0: N= 3.00: Tp=  .32]
02418> *******************************************************************************
02419> # EXT8
02420> *******************************************************************************
02421> R0105:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02422>      CALIB NASHYD          1.0 01:EXT8           .83     .035 No_date   12:20   27.82 .434     .000
02423>        [CN= 79.0: N= 3.00: Tp=  .42]
02424> *******************************************************************************
02425> # EXT9
02426> *******************************************************************************
02427> R0105:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02428>      CALIB NASHYD          1.0 01:EXT9          3.57     .123 No_date   12:24   25.30 .395     .000
02429>        [CN= 76.0: N= 3.00: Tp=  .48]
02430> *******************************************************************************
02431> # EXT9a
02432> *******************************************************************************
02433> R0105:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02434>      CALIB NASHYD          1.0 01:EXT9a          .01     .001 No_date   12:00   26.94 .420     .000
02435>        [CN= 78.0: N= 3.00: Tp=  .04]
02436> *******************************************************************************
02437> # EXT10
02438> *******************************************************************************
02439> R0105:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02440>      CALIB NASHYD          1.0 01:EXT10          .20     .006 No_date   12:20   21.64 .338     .000
02441>        [CN= 71.0: N= 3.00: Tp=  .42]
02442> *******************************************************************************
02443> # Pre2_1
02444> *******************************************************************************
02445> R0105:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02446> *    CALIB NASHYD          1.0 01:Pre2_1         .01     .001 No_date   12:00   22.32 .348     .000
02447>        [CN= 72.0: N= 3.00: Tp=  .03]
02448> *******************************************************************************
02449> # Pre2_2
02450> *******************************************************************************
02451> R0105:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02452> *    CALIB NASHYD          1.0 01:Pre2_2         .00     .000 No_date   12:00   26.94 .420     .000
02453>        [CN= 78.0: N= 3.00: Tp=  .02]
02454> *******************************************************************************
02455> # Pre9_1
02456> *******************************************************************************
02457> R0105:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02458>      CALIB NASHYD          1.0 01:Pre9_1         .44     .015 No_date   12:17   21.65 .338     .000
02459>        [CN= 71.0: N= 3.00: Tp=  .38]
02460> *******************************************************************************
02461> # Pre9_2
02462> *******************************************************************************
02463> R0105:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02464> *    CALIB NASHYD          1.0 01:Pre9_2         .01     .001 No_date   12:00   14.97 .233     .000
02465>        [CN= 59.0: N= 3.00: Tp=  .03]
02466> *******************************************************************************
02467> # Pre10_1
02468> *******************************************************************************
02469> R0105:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02470>      CALIB NASHYD          1.0 01:Pre10_1        .80     .033 No_date   12:11   21.65 .338     .000
02471>        [CN= 71.0: N= 3.00: Tp=  .29]
02472> *******************************************************************************
02473> # Pre11_1
02474> *******************************************************************************
02475> R0105:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02476>      CALIB NASHYD          1.0 01:Pre11_1        .07     .004 No_date   12:07   26.94 .420     .000
02477>        [CN= 78.0: N= 3.00: Tp=  .21]
02478> *******************************************************************************
02479> # Site 1
02480> *******************************************************************************
02481> R0105:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02482>      DESIGN STANDHYD       1.0 01:S1-B1            .42     .054 No_date   12:00   32.23 .503     .000
02483>        [XIMP=.34:TIMF=.44]
02484>        [SLP=1.00:DT= 1.00]
02485>        [LOSS= 1 : HORTONS]
02486> *******************************************************************************
02487> # Site 1 - Roof
02488> *******************************************************************************
02489> R0105:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02490>      DESIGN STANDHYD       1.0 01:S1-Roof          .06     .014 No_date   12:00   62.02 .967     .000
02491>        [XIMP=.99:TIMF=.99]
02492>        [SLP=  .50:DT= 1.00]
02493>        [LOSS= 1 : HORTONS]
02494> R0105:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02495>      ROUTE RESERVOIR ->    1.0 02:S1-Roof          .06     .014 No_date   12:00   62.02  n/a     .000
02496>                      out <=    1.0 01:S1-Roof-Ou     .06     .002 No_date   12:06   62.02  n/a     .000
02497>                overflow <=    1.0 03:S1-Roof-Ov     .00     .000 No_date    0:00     .00  n/a     .000
02498>      {MxStoUsed=.1846E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
02499> R0105:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02500>      ADD HYD               1.0 02:S1-B1            .42     .054 No_date   12:00   32.23  n/a     .000
02501>                        +     1.0 02:S1-Roof-Ou     .06     .002 No_date   12:06   62.02  n/a     .000
02502>                        +     1.0 02:S1-Roof-Ov     .00     .000 No_date    0:00     .00  n/a     .000
02503>                      SUM=    1.0 01:SITE1-IN       .48     .056 No_date   12:00   36.26  n/a     .000
02504> R0105:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02505>      ROUTE RESERVOIR ->    1.0 02:SITE1-IN       .48     .056 No_date   12:00   36.26  n/a     .000
02506>                      out <=    1.0 01:SITE1-Out      .48     .007 No_date   12:36   36.26  n/a     .000
02507>                overflow <=    1.0 03:SITE1-Over     .00     .000 No_date    0:00     .00  n/a     .000
02508>      {MxStoUsed=.7158E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
02509> *******************************************************************************
02510> # Site 2
02511> *******************************************************************************
02512> R0105:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02513>      DESIGN STANDHYD       1.0 01:S2-B3            .35     .045 No_date   12:00   30.79 .480     .000
02514>        [XIMP=.31:TIMF=.41]
02515>        [SLP=1.00:DT= 1.00]
02516>        [LOSS= 1 : HORTONS]
02517> *******************************************************************************
02518> # Site 2 - Roof
02519> *******************************************************************************
02520> R0105:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
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02521>     DESIGN STANDHYD       1.0 01:S2-Roof         .09     .020 No_date   12:00   62.06 .968     .000
02522>       [XIMP=.99:TIMP=.99]
02523>       [SLP= .50:DT= 1.00]
02524>       [LOSS= 1 : HORTONS]
02525> *******************************************************************************
02526> R0105:C00028------------DTmin-ID:NHYD----------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
02527>     ROUTE RESERVOIR ->     1.0 02:S2-Roof         .09     .020 No_date   12:00     .00 n/a       .000
02528>                  out <=    1.0 01:S2-Roof-Ou      .09     .007 No_date   12:03   62.06 n/a       .000
02529>              overflow <=   1.0 03:S2-Roof-Ov      .00     .000 No_date   0:00     .00 n/a       .000
02530>       (MxStoUsed=.1528E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=     0, TotDurOvf=     0.hrs)
02531> R0105:C00029------------DTmin-ID:NHYD----------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
02532>     ADD HYD               1.0 02:S2-B3           .35     .045 No_date   12:00   30.79 n/a       .000
02533>                     +     1.0 02:S2-Roof-Ou      .09     .007 No_date   12:03   62.06 n/a       .000
02534>                     +     1.0 02:S2-Roof-Ov      .00     .000 No_date   0:00     .00 n/a       .000
02535>                   SUM=    1.0 01:SITE2-IN        .45     .051 No_date   12:00   37.29 n/a       .000
02536> R0105:C00030------------DTmin-ID:NHYD----------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
02537>     ROUTE RESERVOIR ->     1.0 02:SITE2-IN        .45     .051 No_date   12:00   37.29 n/a       .000
02538>                  out <=    1.0 01:SITE2-Out       .45     .008 No_date   12:41   37.29 n/a       .000
02539>              overflow <=   1.0 03:SITE2-Over      .00     .000 No_date   0:00     .00 n/a       .000
02540>       (MxStoUsed=.8066E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=     0, TotDurOvf=     0.hrs)
02541> R0105:C00031------------DTmin-ID:NHYD----------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
02542>     ADD HYD               1.0 02:SITE1-Out       .48     .007 No_date   12:36   36.26 n/a       .000
02543>                     +     1.0 02:SITE1-Over      .00     .000 No_date   0:00     .00 n/a       .000
02544>                   SUM=    1.0 01:Site1           .48     .007 No_date   12:36   36.26 n/a       .000
02545> R0105:C00032------------DTmin-ID:NHYD----------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
02546>     ADD HYD               1.0 02:SITE2-Out       .45     .008 No_date   12:41   37.29 n/a       .000
02547>                     +     1.0 02:SITE2-Over      .00     .000 No_date   0:00     .00 n/a       .000
02548>                   SUM=    1.0 01:Site2           .45     .008 No_date   12:41   37.29 n/a       .000
02549> R0105:C00033------------DTmin-ID:NHYD----------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
02550>     ADD HYD               1.0 02:EXT2            .28     .018 No_date   12:13   33.88 n/a       .000
02551>                     +     1.0 02:Pre2_1          .01     .001 No_date   12:00   22.32 n/a       .000
02552>                     +     1.0 02:Site1           .48     .007 No_date   12:36   36.26 n/a       .000
02553>                     +     1.0 02:Site2           .45     .008 No_date   12:41   37.29 n/a       .000
02554>                   SUM=    1.0 01:J1             1.23     .032 No_date   12:15   35.94 n/a       .000
02555> R0105:C00034------------DTmin-ID:NHYD----------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
02556>     ROUTE CHANNEL    ->    1.0 02:J1             1.23     .032 No_date   12:15   35.94 n/a       .000
02557>       [RDT= 1.00] out<-    1.0 01:R1             1.23     .031 No_date   12:21   35.94 n/a       .000
02558>       [L/S/n=  143./ .394/.035]
02559>       {Vmax=   .304:Dmax=   .117}
02560> R0105:C00035------------DTmin-ID:NHYD----------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
02561>     ADD HYD               1.0 02:R1             1.23     .031 No_date   12:21   35.94 n/a       .000
02562>                     +     1.0 02:EXT3            .56     .030 No_date   12:13   28.73 n/a       .000
02563>                     +     1.0 02:EXT1           3.21     .095 No_date   12:41   28.73 n/a       .000
02564>                   SUM=    1.0 01:J2             5.00     .142 No_date   12:30   30.50 n/a       .000
02565> R0105:C00036------------DTmin-ID:NHYD----------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
02566>     ROUTE CHANNEL    ->    1.0 02:J2             5.00     .142 No_date   12:30   30.50 n/a       .000
02567>       [RDT= 1.00] out<-    1.0 01:R2             5.00     .142 No_date   12:32   30.50 n/a       .000
02568>       [L/S/n=  73./ .425/.035]
02569>       {Vmax=   .450:Dmax=   .223}
02570> R0105:C00037------------DTmin-ID:NHYD----------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
02571>     ADD HYD               1.0 02:R2             5.00     .142 No_date   12:32   30.50 n/a       .000
02572>                     +     1.0 02:EXT4            .31     .017 No_date   12:11   27.82 n/a       .000
02573>                   SUM=    1.0 01:J3             5.31     .152 No_date   12:28   30.34 n/a       .000
02574> R0105:C00038------------DTmin-ID:NHYD----------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
02575>     ROUTE CHANNEL    ->    1.0 02:J3             5.31     .152 No_date   12:28   30.34 n/a       .000
02576>       [RDT= 1.00] out<-    1.0 01:R3             5.31     .151 No_date   12:32   30.34 n/a       .000
02577>       [L/S/n=  92./ .274/.035]
02578>       {Vmax=   .369:Dmax=   .231}
02579> R0105:C00039------------DTmin-ID:NHYD----------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
02580>     ADD HYD               1.0 02:R3             5.31     .151 No_date   12:32   30.34 n/a       .000
02581>                     +     1.0 02:EXT5            .59     .021 No_date   12:22   25.29 n/a       .000
02582>                   SUM=    1.0 01:J4             5.90     .171 No_date   12:30   29.84 n/a       .000
02583> R0105:C00040------------DTmin-ID:NHYD----------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
02584>     ROUTE CHANNEL    ->    1.0 02:J4             5.90     .171 No_date   12:30   29.84 n/a       .000
02585>       [RDT= 1.00] out<-    1.0 01:R4             5.90     .161 No_date   12:42   29.84 n/a       .000
02586>       [L/S/n=  251./ .190/.035]
02587>       {Vmax=   .358:Dmax=   .256}
02588> R0105:C00041------------DTmin-ID:NHYD----------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
02589>     ADD HYD               1.0 02:R4             5.90     .161 No_date   12:42   29.84 n/a       .000
02590>                     +     1.0 02:EXT6            .86     .037 No_date   12:29   33.88 n/a       .000
02591>                     +     1.0 02:EXT7            .47     .028 No_date   12:13   31.69 n/a       .000
02592>                   SUM=    1.0 01:J5             7.23     .211 No_date   12:37   30.44 n/a       .000
02593> R0105:C00042------------DTmin-ID:NHYD----------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
02594>     ROUTE CHANNEL    ->    1.0 02:J5             7.23     .211 No_date   12:37   30.44 n/a       .000
02595>       [RDT= 1.00] out<-    1.0 01:R5             7.23     .208 No_date   12:41   30.44 n/a       .000
02596>       [L/S/n=  237./ .644/.035]
02597>       {Vmax=   .589:Dmax=   .245}
02598> R0105:C00043------------DTmin-ID:NHYD----------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
02599>     ADD HYD               1.0 02:Pre10_1         .80     .033 No_date   12:11   21.65 n/a       .000
02600>                     +     1.0 02:Pre9_2          .01     .001 No_date   12:00   26.94 n/a       .000
02601>                     +     1.0 02:Pre2_2          .00     .000 No_date   12:00   26.94 n/a       .000
02602>                   SUM=    1.0 01:Pre             .81     .033 No_date   12:11   21.55 n/a       .000
02603> R0105:C00044------------DTmin-ID:NHYD----------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
02604>     ROUTE CHANNEL    ->    1.0 02:Pre            .81     .033 No_date   12:11   21.55 n/a       .000
02605>       [RDT= 1.00] out<-    1.0 01:R6             .81     .033 No_date   12:14   21.55 n/a       .000
02606>       [L/S/n=  77./ .776/.035]
02607>       {Vmax=   .492:Dmax=   .024}
02608> R0105:C00045------------DTmin-ID:NHYD----------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
02609>     ROUTE CHANNEL    ->    1.0 02:Pre9_1          .44     .015 No_date   12:17   21.65 n/a       .000
02610>       [RDT= 1.00] out<-    1.0 01:R7             .44     .015 No_date   12:21   21.65 n/a       .000
02611>       [L/S/n=  159./1.576/.035]
02612>       {Vmax=   .797:Dmax=   .004}
02613> R0105:C00046------------DTmin-ID:NHYD----------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
02614>     ADD HYD               1.0 02:R6             .81     .033 No_date   12:14   21.59 n/a       .000
02615>                     +     1.0 02:EXT10           .20     .006 No_date   12:20   21.64 n/a       .000
02616>                   SUM=    1.0 01:J6             1.02     .039 No_date   12:15   21.60 n/a       .000
02617> R0105:C00047------------DTmin-ID:NHYD----------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
02618>     ROUTE CHANNEL    ->    1.0 02:J6             1.02     .039 No_date   12:15   21.60 n/a       .000
02619>       [RDT= 1.00] out<-    1.0 01:R8             1.02     .038 No_date   12:18   21.60 n/a       .000
02620>       [L/S/n=  79./ .522/.035]
02621>       {Vmax=   .423:Dmax=   .029}
02622> R0105:C00048------------DTmin-ID:NHYD----------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
02623>     ADD HYD               1.0 02:R8             1.02     .038 No_date   12:18   21.63 n/a       .000
02624>                     +     1.0 02:R7              .44     .015 No_date   12:21   21.72 n/a       .000
02625>                   SUM=    1.0 01:J7             1.46     .053 No_date   12:19   21.66 n/a       .000
02626> R0105:C00049------------DTmin-ID:NHYD----------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
02627>     ROUTE CHANNEL    ->    1.0 02:J7             1.46     .053 No_date   12:19   21.66 n/a       .000
02628>       [RDT= 1.00] out<-    1.0 01:R9             1.46     .053 No_date   12:20   21.66 n/a       .000
02629>       [L/S/n=  29./ .887/.035]
02630>       {Vmax=   .543:Dmax=   .036}
02631> R0105:C00050------------DTmin-ID:NHYD----------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
02632>     ADD HYD               1.0 02:EXT9           3.57     .123 No_date   12:24   25.30 n/a       .000
02633>                     +     1.0 02:R9             1.46     .053 No_date   12:20   21.67 n/a       .000
02634>                     +     1.0 02:EXT8            .83     .035 No_date   12:20   27.82 n/a       .000
02635>                     +     1.0 02:R5             7.23     .208 No_date   12:41   30.44 n/a       .000
02636>                   SUM=    1.0 01:J8            13.09     .393 No_date   12:31   27.90 n/a       .000
02637> R0105:C00051------------DTmin-ID:NHYD----------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
02638>     ROUTE PIPE       ->    1.0 02:J8            13.09     .393 No_date   12:31   27.90 n/a       .000
02639> *   [RDT= 1.00] out<-    1.0 01:Outlet         13.09     .392 No_date   12:33   27.90 n/a       .000
02640>       [L/S/n=   8./ .010/.013]
02641>       {Vmax=   .394:Dmax=   .988}
02642>       [Din=   .53:Dused=  1.20]
02643> ###############################################################################
02644> # STORMS
02645> ###############################################################################
02646>   ** END OF RUN :  109
02647>
02648>  ************************************************************************************
02649>
02650>
02651>
02652>
02653>
02654>  RUN#:COMMAND#
02655> R0110:C00001------------------------------------------------------------------------------
02656>       START
02657>       [TZERO =     .00 hrs on        0]
02658>       [METOUT=   2    (1=imperial, 2=metric output)]
02659>       [NSTORM=   1 ]
02660>       [NRUN   = 0110 ]
02661> ********************************************************************************
02662> #  SWMHYMO  / INPUT DATA FILE
02663> ********************************************************************************
02664> #  Project Name  : [5923 Ottawa St]
02665> #  Project Number: [P2710(e01)]
02666> #  Date          : [2025 April 28]
02667> #  Modeller      : [MM]
02668> #  Company       : JFSA Canada Inc.
02669> #  License #     : 2549237
02670> ********************************************************************************
02671> # Model developed to simulate runoff from subcatchments under post development conditions
02672> ********************************************************************************
02673> R0110:C00002------------------------------------------------------------------------------
02674>       READ STORM
02675>       Filename = STORM.001
02676>       Comment  = 10 years SCS Type 2 Storm 24 Hours step 10 min, City of Ottawa
02677>       [SDT=10.00:SDUR=  24.11:PTOT=  74.35]
02678> ********************************************************************************
02679> R0110:C00003------------------------------------------------------------------------------
02680>       DEFAULT VALUES
02681>       Filename = C:\Temp\20250910-PostDev\Ottawa.val
02682>       ICASEdv  = 1 (read and print data)
02683>       FileTitle= File comment: [Parameters for City of Ottawa Projects]
02684>                  THE FOLLOWING PARAMETERS ARE USED IN THE DESIGN STANDHYD COM
02685>       Horton's infiltration equation parameters:
02686>       [F= 76.20 mm/hr] [Fc=13.20 mm/hr] [DCAY= 4.14 /hr] [F=  .00 mm]
02687>       Parameters for PERVIOUS surfaces in STANDHYD:
02688>       [IAper=   4.67 mm] [LGP=40.00 m] [MNP= .250]
02689>       Parameters for IMPERVIOUS surfaces in STANDHYD:
02690>       [IAimp=   1.57 mm] [CLI= 1.50]   [MNI= .013]
02691>       Parameters used in NASHYD:
02692>       [Ia=   4.67 mm] [N= 3.00]
02693>       Average monthly Fan Evaporation data in     (mm)
02694>    JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
02695>   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
02696>       Average monthly Potential Evapotranspiration in     (mm)
02697>    JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
02698>   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
02699> ********************************************************************************
02700> # EXT1

02701> ********************************************************************************
02702> R0110:C00004------------DTmin-ID:NHYD----------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
02703>     CALIB NASHYD          1.0 01:EXT1           3.21     .121 No_date   12:40   36.46 .490     .000
02704>       [CN= 80.0: N= 3.00: Tp=  .72]
02705> ********************************************************************************
02706> # EXT2
02707> ********************************************************************************
02708> R0110:C00005------------DTmin-ID:NHYD----------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
02709>     CALIB NASHYD          1.0 01:EXT2            .28     .022 No_date   12:13   42.40 .570     .000
02710>       [CN= 85.0: N= 3.00: Tp=  .33]
02711> ********************************************************************************
02712> # EXT3
02713> ********************************************************************************
02714> R0110:C00006------------DTmin-ID:NHYD----------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
02715>     CALIB NASHYD          1.0 01:EXT3            .56     .038 No_date   12:13   36.46 .490     .000
02716>       [CN= 80.0: N= 3.00: Tp=  .32]
02717> ********************************************************************************
02718> # EXT4
02719> ********************************************************************************
02720> R0110:C00007------------DTmin-ID:NHYD----------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
02721>     CALIB NASHYD          1.0 01:EXT4            .31     .022 No_date   12:11   35.39 .476     .000
02722>       [CN= 79.0: N= 3.00: Tp=  .29]
02723> ********************************************************************************
02724> # EXT5
02725> ********************************************************************************
02726> R0110:C00008------------DTmin-ID:NHYD----------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
02727>     CALIB NASHYD          1.0 01:EXT5            .59     .028 No_date   12:22   32.39 .436     .000
02728>       [CN= 76.0: N= 3.00: Tp=  .45]
02729> ********************************************************************************
02730> # EXT6
02731> ********************************************************************************
02732> R0110:C00009------------DTmin-ID:NHYD----------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
02733>     CALIB NASHYD          1.0 01:EXT6            .86     .046 No_date   12:29   42.40 .570     .000
02734>       [CN= 85.0: N= 3.00: Tp=  .56]
02735> ********************************************************************************
02736> # EXT7
02737> ********************************************************************************
02738> R0110:C00010------------DTmin-ID:NHYD----------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
02739>     CALIB NASHYD          1.0 01:EXT7            .47     .035 No_date   12:13   39.90 .537     .000
02740>       [CN= 83.0: N= 3.00: Tp=  .32]
02741> ********************************************************************************
02742> # EXT8
02743> ********************************************************************************
02744> R0110:C00011------------DTmin-ID:NHYD----------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
02745>     CALIB NASHYD          1.0 01:EXT8            .83     .045 No_date   12:19   35.39 .476     .000
02746>       [CN= 79.0: N= 3.00: Tp=  .42]
02747> ********************************************************************************
02748> # EXT9
02749> ********************************************************************************
02750> R0110:C00012------------DTmin-ID:NHYD----------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
02751>     CALIB NASHYD          1.0 01:EXT9           3.57     .158 No_date   12:24   32.39 .436     .000
02752>       [CN= 76.0: N= 3.00: Tp=  .48]
02753> ********************************************************************************
02754> # EXT9a
02755> ********************************************************************************
02756> R0110:C00013------------DTmin-ID:NHYD----------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
02757>     CALIB NASHYD          1.0 01:EXT9a           .01     .002 No_date   12:00   34.35 .462     .000
02758>       [CN= 78.0: N= 3.00: Tp=  .04]
02759> ********************************************************************************
02760> # EXT10
02761> ********************************************************************************
02762> R0110:C00014------------DTmin-ID:NHYD----------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
02763>     CALIB NASHYD          1.0 01:EXT10           .20     .008 No_date   12:20   27.99 .377     .000
02764>       [CN= 71.0: N= 3.00: Tp=  .52]
02765> ********************************************************************************
02766> # Pre2_1
02767> ********************************************************************************
02768> R0110:C00015------------DTmin-ID:NHYD----------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
02769>   *  CALIB NASHYD          1.0 01:Pre2_1          .01     .002 No_date   12:00   28.81 .388     .000
02770>       [CN= 72.0: N= 3.00: Tp=  .03]
02771> ********************************************************************************
02772> # Pre2_2
02773> ********************************************************************************
02774> R0110:C00016------------DTmin-ID:NHYD----------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
02775>   *  CALIB NASHYD          1.0 01:Pre2_2          .00     .000 No_date   12:00   34.35 .462     .000
02776>       [CN= 78.0: N= 3.00: Tp=  .02]
02777> ********************************************************************************
02778> # Pre9_1
02779> ********************************************************************************
02780> R0110:C00017------------DTmin-ID:NHYD----------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
02781>     CALIB NASHYD          1.0 01:Pre9_1          .44     .020 No_date   12:17   28.00 .377     .000
02782>       [CN= 71.0: N= 3.00: Tp=  .38]
02783> ********************************************************************************
02784> # Pre9_2
02785> ********************************************************************************
02786> R0110:C00018------------DTmin-ID:NHYD----------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
02787>   *  CALIB NASHYD          1.0 01:Pre9_2          .01     .001 No_date   12:00   19.72 .265     .000
02788>       [CN= 59.0: N= 3.00: Tp=  .03]
02789> ********************************************************************************
02790> # Pre10_1
02791> ********************************************************************************
02792> R0110:C00019------------DTmin-ID:NHYD----------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
02793>     CALIB NASHYD          1.0 01:Pre10_1         .80     .043 No_date   12:11   28.00 .377     .000
02794>       [CN= 71.0: N= 3.00: Tp=  .29]
02795> ********************************************************************************
02796> # Pre11_1
02797> ********************************************************************************
02798> R0110:C00020------------DTmin-ID:NHYD----------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
02799>     CALIB NASHYD          1.0 01:Pre11_1         .07     .006 No_date   12:07   34.35 .462     .000
02800>       [CN= 78.0: N= 3.00: Tp=  .21]
02801> ********************************************************************************
02802> # Site 1
02803> ********************************************************************************
02804> R0110:C00021------------DTmin-ID:NHYD----------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
02805>     DESIGN STANDHYD       1.0 01:S1-B1           .42     .068 No_date   12:00   38.77 .521     .000
02806>       [XIMP=.34:TIMP=.44]
02807>       [SLP=1.00:DT= 1.00]
02808>       [LOSS= 1 : HORTONS]
02809> ********************************************************************************
02810> # Site 1 - Roof
02811> ********************************************************************************
02812> R0110:C00022------------DTmin-ID:NHYD----------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
02813>     DESIGN STANDHYD       1.0 01:S1-Roof         .06     .016 No_date   12:00   72.22 .971     .000
02814>       [XIMP=.99:TIMP=.99]
02815>       [SLP= .50:DT= 1.00]
02816>       [LOSS= 1 : HORTONS]
02817> R0110:C00023------------DTmin-ID:NHYD----------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
02818>     ROUTE RESERVOIR ->     1.0 01:S1-Roof         .06     .016 No_date   12:00   72.22 n/a       .000
02819>                  out <=    1.0 01:S1-Roof-Ou      .06     .002 No_date   12:05   72.22 n/a       .000
02820>              overflow <=   1.0 03:S1-Roof-Ov      .00     .000 No_date   0:00     .00 n/a       .000
02821>       (MxStoUsed=.2143E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=     0, TotDurOvf=     0.hrs)
02822> R0110:C00024------------DTmin-ID:NHYD----------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
02823>     ADD HYD               1.0 02:S1-B1           .42     .068 No_date   12:00   38.77 n/a       .000
02824>                     +     1.0 02:S1-Roof-Ou      .06     .002 No_date   12:05   72.22 n/a       .000
02825>                     +     1.0 02:S1-Roof-Ov      .00     .000 No_date   0:00     .00 n/a       .000
02826>                   SUM=    1.0 01:SITE1-IN        .48     .070 No_date   12:00   43.30 n/a       .000
02827> R0110:C00025------------DTmin-ID:NHYD----------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
02828>     ROUTE RESERVOIR ->     1.0 02:SITE1-IN        .48     .070 No_date   12:00   43.30 n/a       .000
02829>                  out <=    1.0 01:SITE1-Out       .48     .007 No_date   12:36   43.30 n/a       .000
02830>              overflow <=   1.0 03:SITE1-Over      .00     .000 No_date   0:00     .00 n/a       .000
02831>       (MxStoUsed=.9127E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=     0, TotDurOvf=     0.hrs)
02832> ********************************************************************************
02833> # Site 2
02834> ********************************************************************************
02835> R0110:C00026------------DTmin-ID:NHYD----------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
02836>     DESIGN STANDHYD       1.0 01:S2-B3           .35     .057 No_date   12:00   37.18 .500     .000
02837>       [XIMP=.31:TIMP=.41]
02838>       [SLP=1.00:DT= 1.00]
02839>       [LOSS= 1 : HORTONS]
02840> ********************************************************************************
02841> # Site 2 - Roof
02842> ********************************************************************************
02843> R0110:C00027------------DTmin-ID:NHYD----------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
02844>     DESIGN STANDHYD       1.0 01:S2-Roof         .09     .023 No_date   12:00   72.23 .971     .000
02845>       [XIMP=.99:TIMP=.99]
02846>       [SLP= .50:DT= 1.00]
02847>       [LOSS= 1 : HORTONS]
02848> ********************************************************************************
02849> R0110:C00028------------DTmin-ID:NHYD----------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
02850>     ROUTE RESERVOIR ->     1.0 02:S2-Roof         .09     .023 No_date   12:00   72.23 n/a       .000
02851>                  out <=    1.0 01:S2-Roof-Ou      .09     .007 No_date   12:02   72.23 n/a       .000
02852>              overflow <=   1.0 03:S2-Roof-Ov      .00     .000 No_date   0:00     .00 n/a       .000
02853>       (MxStoUsed=.1842E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=     0, TotDurOvf=     0.hrs)
02854> R0110:C00029------------DTmin-ID:NHYD----------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
02855>     ADD HYD               1.0 02:S2-B3           .35     .057 No_date   12:00   37.18 n/a       .000
02856>                     +     1.0 02:S2-Roof-Ou      .09     .007 No_date   12:02   72.23 n/a       .000
02857>                     +     1.0 02:S2-Roof-Ov      .00     .000 No_date   0:00     .00 n/a       .000
02858>                   SUM=    1.0 01:SITE2-IN        .45     .064 No_date   12:00   44.47 n/a       .000
02859> R0110:C00030------------DTmin-ID:NHYD----------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
02860>     ROUTE RESERVOIR ->     1.0 02:SITE2-IN        .45     .064 No_date   12:00   44.47 n/a       .000
02861>                  out <=    1.0 01:SITE2-Out       .45     .008 No_date   12:44   44.47 n/a       .000
02862>              overflow <=   1.0 03:SITE2-Over      .00     .000 No_date   0:00     .00 n/a       .000
02863>       (MxStoUsed=.8872E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=     0, TotDurOvf=     0.hrs)
02864> R0110:C00031------------DTmin-ID:NHYD----------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
02865>     ADD HYD               1.0 02:SITE1-Out       .48     .007 No_date   12:36   43.30 n/a       .000
02866>                     +     1.0 02:SITE1-Over      .00     .000 No_date   0:00     .00 n/a       .000
02867>                   SUM=    1.0 01:Site1           .48     .007 No_date   12:36   43.30 n/a       .000
02868> R0110:C00032------------DTmin-ID:NHYD----------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
02869>     ADD HYD               1.0 02:SITE2-Out       .45     .008 No_date   12:44   44.47 n/a       .000
02870>                     +     1.0 02:SITE2-Over      .00     .000 No_date   0:00     .00 n/a       .000
02871>                   SUM=    1.0 01:Site2           .45     .008 No_date   12:44   44.47 n/a       .000
02872> R0110:C00033------------DTmin-ID:NHYD----------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
02873>     ADD HYD               1.0 02:EXT2            .28     .022 No_date   12:13   42.40 n/a       .000
02874>                     +     1.0 02:Pre2_1          .01     .002 No_date   12:00   28.81 n/a       .000
02875>                     +     1.0 02:Site1           .48     .007 No_date   12:36   43.30 n/a       .000
02876>                     +     1.0 02:Site2           .45     .008 No_date   12:44   44.47 n/a       .000
02877>                   SUM=    1.0 01:J1             1.23     .037 No_date   12:14   43.37 n/a       .000
02878> R0110:C00034------------DTmin-ID:NHYD----------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
02879>     ROUTE CHANNEL    ->    1.0 02:J1             1.23     .037 No_date   12:14   43.37 n/a       .000
02880>       [RDT= 1.00] out<-    1.0 01:R1             1.23     .036 No_date   12:21   43.37 n/a       .000
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02881>       [L/S/n=  143./ .394/.035]
02882>       (Vmax=  .316:Dmax=  .125)
02883> R0110:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02884>     ADD HYD                1.0 02:R1            1.23      .036 No_date   12:21  43.37  n/a     .000
02885>                      +     1.0 02:EXT3           .56      .038 No_date   12:13  36.46  n/a     .000
02886>                      +     1.0 02:EXT1          3.21      .121 No_date   12:40  36.46  n/a     .000
02887>                    SUM=    1.0 01:J2            5.00      .178 No_date   12:29  38.15  n/a     .000
02888> R0110:C00036------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02889>     ROUTE CHANNEL   ->     1.0 02:J2            5.00      .178 No_date   12:29  38.15  n/a     .000
02890>       [RD*= 1.00] out<-    1.0 01:R2            5.00      .177 No_date   12:31  38.15  n/a     .000
02891>       [L/S/n=  73./ .425/.035]
02892>       (Vmax=  .478:Dmax=  .244)
02893> R0110:C00037------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02894>     ADD HYD                1.0 02:R2            5.00      .177 No_date   12:31  38.15  n/a     .000
02895>                      +     1.0 02:EXT4           .31      .022 No_date   12:11  35.39  n/a     .000
02896>                    SUM=    1.0 01:J3            5.31      .191 No_date   12:28  37.99  n/a     .000
02897> R0110:C00038------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02898>     ROUTE CHANNEL   ->     1.0 02:J3            5.31      .191 No_date   12:28  37.99  n/a     .000
02899>       [RD*= 1.00] out<-    1.0 01:R3            5.31      .190 No_date   12:31  37.99  n/a     .000
02900>       [L/S/n=  92./ .274/.035]
02901>       (Vmax=  .391:Dmax=  .253)
02902> R0110:C00039------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02903>     ADD HYD                1.0 02:R3            5.31      .190 No_date   12:31  37.99  n/a     .000
02904>                      +     1.0 02:EXT5           .59      .028 No_date   12:22  32.39  n/a     .000
02905>                    SUM=    1.0 01:J4            5.90      .216 No_date   12:30  37.43  n/a     .000
02906> R0110:C00040------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02907>     ROUTE CHANNEL   ->     1.0 02:J4            5.90      .216 No_date   12:30  37.43  n/a     .000
02908>       [RD*= 1.00] out<-    1.0 01:R4            5.90      .204 No_date   12:40  37.43  n/a     .000
02909>       [L/S/n=  251./ .190/.035]
02910>       (Vmax=  .384:Dmax=  .284)
02911> R0110:C00041------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02912>     ADD HYD                1.0 02:R4            5.90      .204 No_date   12:40  37.43  n/a     .000
02913>                      +     1.0 02:EXT6           .86      .046 No_date   12:29  42.40  n/a     .000
02914>                      +     1.0 02:EXT7           .47      .035 No_date   12:13  39.90  n/a     .000
02915>                    SUM=    1.0 01:J5            7.23      .268 No_date   12:35  38.18  n/a     .000
02916> R0110:C00042------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02917>     ROUTE CHANNEL   ->     1.0 02:J5            7.23      .268 No_date   12:35  38.18  n/a     .000
02918>       [RD*= 1.00] out<-    1.0 01:R5            7.23      .264 No_date   12:41  38.18  n/a     .000
02919>       [L/S/n=  237./ .644/.035]
02920>       (Vmax=  .623:Dmax=  .267)
02921> R0110:C00043------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02922>     ADD HYD                1.0 02:Pre10_1        .80      .043 No_date   12:11  28.00  n/a     .000
02923>                      +     1.0 02:Pre9_2         .01      .001 No_date   12:00  19.72  n/a     .000
02924>                      +     1.0 02:Pre2_2         .00      .000 No_date   12:00  34.35  n/a     .000
02925>                    SUM=    1.0 01:Pre           .81      .043 No_date   12:11  27.87  n/a     .000
02926> R0110:C00044------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02927>     ROUTE CHANNEL   ->     1.0 02:Pre           .81      .043 No_date   12:11  27.87  n/a     .000
02928>       [RD*= 1.00] out<-    1.0 01:R6            .81      .043 No_date   12:14  27.87  n/a     .000
02929>       [L/S/n=  77./ .776/.035]
02930>       (Vmax=  .492:Dmax=  .032)
02931> R0110:C00045------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02932>     ROUTE CHANNEL   ->     1.0 02:Pre9_1         .44      .020 No_date   12:17  28.00  n/a     .000
02933>       [RD*= 1.00] out<-    1.0 01:R7            .44      .019 No_date   12:21  28.00  n/a     .000
02934>       [L/S/n=  159./1.576/.035]
02935>       (Vmax=  .797:Dmax=  .006)
02936> R0110:C00046------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02937>     ADD HYD                1.0 02:R6            .81      .043 No_date   12:14  27.92  n/a     .000
02938>                      +     1.0 02:EXT10          .20      .008 No_date   12:20  27.99  n/a     .000
02939>                    SUM=    1.0 01:J6            1.02      .051 No_date   12:15  27.94  n/a     .000
02940> R0110:C00047------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02941>     ROUTE CHANNEL   ->     1.0 02:J6            1.02      .051 No_date   12:15  27.94  n/a     .000
02942>       [RD*= 1.00] out<-    1.0 01:R8            1.02      .050 No_date   12:18  27.94  n/a     .000
02943>       [L/S/n=  79./ .522/.035]
02944>       (Vmax=  .423:Dmax=  .037)
02945> R0110:C00048------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02946>     ADD HYD                1.0 02:R8            1.02      .050 No_date   12:18  27.97  n/a     .000
02947>                      +     1.0 02:R7            .44      .019 No_date   12:21  28.07  n/a     .000
02948>                    SUM=    1.0 01:J7            1.46      .069 No_date   12:19  28.00  n/a     .000
02949> R0110:C00049------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02950>     ROUTE CHANNEL   ->     1.0 02:J7            1.46      .069 No_date   12:19  28.00  n/a     .000
02951>       [RD*= 1.00] out<-    1.0 01:R9            1.46      .069 No_date   12:20  28.00  n/a     .000
02952>       [L/S/n=  29./ .887/.035]
02953>       (Vmax=  .543:Dmax=  .047)
02954> R0110:C00050------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02955>     ADD HYD                1.0 02:EXT9          3.57      .158 No_date   12:24  32.39  n/a     .000
02956>                      +     1.0 02:R9            1.46      .069 No_date   12:20  28.02  n/a     .000
02957>                      +     1.0 02:EXT8           .83      .045 No_date   12:19  45.14  n/a     .000
02958>                      +     1.0 02:R5            7.23      .264 No_date   12:41  38.18  n/a     .000
02959>                    SUM=    1.0 01:J8           13.09      .505 No_date   12:30  35.30  n/a     .000
02960> R0110:C00051------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02961>     ROUTE PIPE      ->     1.0 02:J8           13.09      .505 No_date   12:30  35.30  n/a     .000
02962> *   [RD*= 1.00] out<-    1.0 01:Outlet        13.09      .505 No_date   12:32  35.30  n/a     .000
02963>       [L/S/n=    8./ .010/.013]
02964>       (Vmax=  .419:Dmax= 1.085)
02965>       [Din=  .53:Dused= 1.32)
02966> ################################################################################
02967> # STORMS                                                                        #
02968> ################################################################################
02969>   ** END OF RUN :  124
02970>
02971> ********************************************************************************
02972>
02973>
02974>
02975>
02976>
02977>  RUN#:COMMAND#
02978> R0125:C00001------------------------------------------------------------------------
02979>       START
02980>       [TZERO =    .00 hrs on       0]
02981>       [METOUT=  2   (1=imperial, 2=metric output)]
02982>       [NSTORM=  1 ]
02983>       [NRUN   = 0125 ]
02984> #*******************************************************************************
02985> #  SWMHYMO  / INPUT DATA FILE                                                   #
02986> #*******************************************************************************
02987> #  Project Name  : [5923 Ottawa St]
02988> #  Project Number: [P2710(e01)]
02989> #  Date          : [2025 April 28]
02990> #  Modeller      : [MM]
02991> #  Company       : JFSA Canada Inc.
02992> #  License #     : 2549237
02993> #*******************************************************************************
02994> # Model developed to simulate runoff from subcatchments under post development conditions
02995> #*******************************************************************************
02996> R0125:C00002------------------------------------------------------------------------
02997>       READ STORM
02998>         Filename = STORM.001
02999>         Comment  = 25 years SCS Type 2 Storm 24 Hours step 10 min, City of Ottawa
03000>         [SDT=10.00:SDUR=  24.00:PTOT=  86.89]
03001> ********************************************************************************
03002> R0125:C00003------------------------------------------------------------------------
03003>       DEFAULT VALUES
03004>         Filename = C:\Temp\20250910-PostDev\Ottawa.val
03005>         ICASEdv  = 1 (read and print data)
03006>         FileTitle= File comment: [Parameters for City of Ottawa Projects]
03007>                    THE FOLLOWING PARAMETERS ARE USED IN THE DESIGN STANDHYD COM
03008>         Horton's infiltration equation parameters:
03009>         [Fo= 76.20 mm/hr] [Fc=13.20 mm/hr] [DCAY= 4.14 /hr] [F=  .00 mm]
03010>         Parameters for PERVIOUS surfaces in STANDHYD:
03011>         [IAperv=   4.67 mm] [LGP=40.00 m] [MNP=.250]
03012>         Parameters for IMPERVIOUS surfaces in STANDHYD:
03013>         [IAimp=   1.57 mm] [CLI= 1.50]   [MNI= .013]
03014>         Parameters used in NASHYD:
03015>         [Ia=   4.67 mm] [N= 3.00]
03016>         Average monthly Pan Evaporation data in    (mm)
03017>       JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
03018>      .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
03019>         Average monthly Potential Evapotranspiration in    (mm)
03020>       JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
03021>      .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
03022> #*******************************************************************************
03023> # EXT1
03024> #*******************************************************************************
03025> R0125:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03026>     CALIB NASHYD           1.0 01:EXT1          3.21      .155 No_date   12:40  46.39 .534     .000
03027>       [CN= 80.0: N= 3.00: Tp=  .72]
03028> #*******************************************************************************
03029> # EXT2
03030> #*******************************************************************************
03031> R0125:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03032>     CALIB NASHYD           1.0 01:EXT2           .28      .028 No_date   12:13  53.21 .612     .000
03033>       [CN= 85.0: N= 3.00: Tp=  .33]
03034> #*******************************************************************************
03035> # EXT3
03036> #*******************************************************************************
03037> R0125:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03038>     CALIB NASHYD           1.0 01:EXT3           .56      .048 No_date   12:13  46.39 .534     .000
03039>       [CN= 80.0: N= 3.00: Tp=  .32]
03040> #*******************************************************************************
03041> # EXT4
03042> #*******************************************************************************
03043> R0125:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03044>     CALIB NASHYD           1.0 01:EXT4           .31      .028 No_date   12:11  45.14 .520     .000
03045>       [CN= 79.0: N= 3.00: Tp=  .29]
03046> #*******************************************************************************
03047> # EXT5
03048> #*******************************************************************************
03049> R0125:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03050>     CALIB NASHYD           1.0 01:EXT5           .59      .036 No_date   12:21  41.61 .479     .000
03051>       [CN= 76.0: N= 3.00: Tp=  .45]
03052> #*******************************************************************************
03053> # EXT6
03054> #*******************************************************************************
03055> R0125:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03056>     CALIB NASHYD           1.0 01:EXT6           .86      .058 No_date   12:28  53.21 .612     .000
03057>       [CN= 85.0: N= 3.00: Tp=  .56]
03058> #*******************************************************************************
03059> # EXT7
03060> #*******************************************************************************
03061> R0125:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03062>     CALIB NASHYD           1.0 01:EXT7           .47      .045 No_date   12:13  50.35 .580     .000
03063>       [CN= 83.0: N= 3.00: Tp=  .32]
03064> #*******************************************************************************
03065> # EXT8
03066> #*******************************************************************************
03067> R0125:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03068>     CALIB NASHYD           1.0 01:EXT8           .83      .058 No_date   12:19  45.14 .520     .000
03069>       [CN= 79.0: N= 3.00: Tp=  .42]
03070> #*******************************************************************************
03071> # EXT9
03072> #*******************************************************************************
03073> R0125:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03074>     CALIB NASHYD           1.0 01:EXT9          3.57      .205 No_date   12:23  41.62 .479     .000
03075>       [CN= 76.0: N= 3.00: Tp=  .48]
03076> #*******************************************************************************
03077> # EXT9a
03078> #*******************************************************************************
03079> R0125:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03080>     CALIB NASHYD           1.0 01:EXT9a          .01      .002 No_date   12:00  43.92 .506     .000
03081>       [CN= 78.0: N= 3.00: Tp=  .04]
03082> #*******************************************************************************
03083> # EXT10
03084> #*******************************************************************************
03085> R0125:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03086>     CALIB NASHYD           1.0 01:EXT10          .20      .011 No_date   12:20  36.34 .418     .000
03087>       [CN= 71.0: N= 3.00: Tp=  .42]
03088> #*******************************************************************************
03089> # Pre2_1
03090> #*******************************************************************************
03091> R0125:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03092> *   CALIB NASHYD           1.0 01:Pre2_1         .01      .002 No_date   12:00  37.34 .430     .000
03093>       [CN= 72.0: N= 3.00: Tp=  .03]
03094> #*******************************************************************************
03095> # Pre2_2
03096> #*******************************************************************************
03097> R0125:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03098> *   CALIB NASHYD           1.0 01:Pre2_2         .00      .000 No_date   12:00  43.92 .506     .000
03099>       [CN= 78.0: N= 3.00: Tp=  .02]
03100> #*******************************************************************************
03101> # Pre9_1
03102> #*******************************************************************************
03103> R0125:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03104>     CALIB NASHYD           1.0 01:Pre9_1         .44      .026 No_date   12:17  36.35 .418     .000
03105>       [CN= 71.0: N= 3.00: Tp=  .28]
03106> #*******************************************************************************
03107> # Pre9_2
03108> #*******************************************************************************
03109> R0125:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03110> *   CALIB NASHYD           1.0 01:Pre9_2         .01      .002 No_date   12:00  26.12 .301     .000
03111>       [CN= 59.0: N= 3.00: Tp=  .03]
03112> #*******************************************************************************
03113> # Pre10_1
03114> #*******************************************************************************
03115> R0125:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03116>     CALIB NASHYD           1.0 01:Pre10_1        .80      .057 No_date   12:11  36.35 .418     .000
03117>       [CN= 71.0: N= 3.00: Tp=  .29]
03118> #*******************************************************************************
03119> # Pre11_1
03120> #*******************************************************************************
03121> R0125:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03122>     CALIB NASHYD           1.0 01:Pre11_1        .07      .007 No_date   12:06  43.93 .506     .000
03123>       [CN= 78.0: N= 3.00: Tp=  .21]
03124> #*******************************************************************************
03125> # Site 1
03126> #*******************************************************************************
03127> R0125:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03128>     DESIGN STANDHYD        1.0 01:S1-B1          .42      .086 No_date   12:00  47.13 .542     .000
03129>       [XIMP=.34:TIMP=.44]
03130>       [SLP=1.00:DT= 1.00]
03131>       [LOSS= 1 : HORTONS]
03132> #*******************************************************************************
03133> # Site 1 - Roof
03134> #*******************************************************************************
03135> R0125:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03136>     DESIGN STANDHYD        1.0 01:S1-Roof        .06      .019 No_date   12:00  84.69 .975     .000
03137>       [XIMP=.99:TIMP=.99]
03138>       [SLP=  .50:DT= 1.00]
03139>       [LOSS= 1 : HORTONS]
03140> R0125:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03141>     ROUTE RESERVOIR ->     1.0 02:S1-Roof        .06      .019 No_date   12:00  84.69  n/a     .000
03142>                      out <=    1.0 01:S1-Roof-Ou    .06      .003 No_date   12:05  84.69  n/a     .000
03143>                  overflow <=   1.0 03:S1-Roof-Ov    .00      .000 No_date   0:00    .00  n/a     .000
03144>       (MxStoUsed=.2510E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs)
03145> R0125:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03146>     ADD HYD                1.0 02:S1-B1          .42      .086 No_date   12:00  47.14  n/a     .000
03147>                      +     1.0 02:S1-Roof-Ou     .06      .003 No_date   12:05  84.69  n/a     .000
03148>                      +     1.0 02:S1-Roof-Ov     .00      .000 No_date   0:00    .00  n/a     .000
03149>                    SUM=    1.0 01:SITE1-IN       .48      .088 No_date   12:00  52.22  n/a     .000
03150> R0125:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03151>     ROUTE RESERVOIR ->     1.0 02:SITE1-IN       .48      .088 No_date   12:00  52.22  n/a     .000
03152>                      out <=    1.0 01:SITE1-Out     .48      .008 No_date   12:39  52.22  n/a     .000
03153>                  overflow <=   1.0 03:SITE1-Over    .00      .000 No_date   0:00    .00  n/a     .000
03154>       (MxStoUsed=.1168E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs)
03155> #*******************************************************************************
03156> # Site 2
03157> #*******************************************************************************
03158> R0125:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03159>     DESIGN STANDHYD        1.0 01:S2-B3          .35      .072 No_date   12:00  45.30 .521     .000
03160>       [XIMP=.31:TIMP=.41]
03161>       [SLP=1.00:DT= 1.00]
03162>       [LOSS= 1 : HORTONS]
03163> #*******************************************************************************
03164> # Site 2 - Roof
03165> #*******************************************************************************
03166> R0125:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03167>     DESIGN STANDHYD        1.0 01:S2-Roof        .09      .027 No_date   12:00  84.69 .975     .000
03168>       [XIMP=.99:TIMP=.99]
03169>       [SLP=  .50:DT= 1.00]
03170>       [LOSS= 1 : HORTONS]
03171> #*******************************************************************************
03172> R0125:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03173>     ROUTE RESERVOIR ->     1.0 02:S2-Roof        .09      .027 No_date   12:00  84.69  n/a     .000
03174>                      out <=    1.0 01:S2-Roof-Ou    .09      .008 No_date   12:02  84.69  n/a     .000
03175>                  overflow <=   1.0 03:S2-Roof-Ov    .00      .000 No_date   0:00    .00  n/a     .000
03176>       (MxStoUsed=.2237E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs)
03177> R0125:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03178>     ADD HYD                1.0 02:S2-B3          .35      .072 No_date   12:00  45.30  n/a     .000
03179>                      +     1.0 02:S2-Roof-Ou     .09      .008 No_date   12:02  84.69  n/a     .000
03180>                      +     1.0 02:S2-Roof-Ov     .00      .000 No_date   0:00    .00  n/a     .000
03181>                    SUM=    1.0 01:SITE2-IN       .45      .080 No_date   12:00  53.50  n/a     .000
03182> R0125:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03183>     ROUTE RESERVOIR ->     1.0 02:SITE2-IN       .45      .080 No_date   12:00  53.50  n/a     .000
03184>                      out <=    1.0 01:SITE2-Out     .45      .009 No_date   12:48  53.50  n/a     .000
03185>                  overflow <=   1.0 03:SITE2-Over    .00      .000 No_date   0:00    .00  n/a     .000
03186>       (MxStoUsed=.1119E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs)
03187> R0125:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03188>     ADD HYD                1.0 02:SITE1-Out      .48      .008 No_date   12:39  52.22  n/a     .000
03189>                      +     1.0 02:SITE1-Over     .00      .000 No_date   0:00    .00  n/a     .000
03190>                    SUM=    1.0 01:Site1          .48      .008 No_date   12:39  52.22  n/a     .000
03191> R0125:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03192>     ADD HYD                1.0 02:SITE2-Out      .45      .009 No_date   12:48  53.50  n/a     .000
03193>                      +     1.0 02:SITE2-Over     .00      .000 No_date   0:00    .00  n/a     .000
03194>                    SUM=    1.0 01:Site2          .45      .009 No_date   12:48  53.50  n/a     .000
03195> R0125:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03196>     ADD HYD                1.0 02:EXT2           .28      .028 No_date   12:13  53.21  n/a     .000
03197>                      +     1.0 02:Pre2_1         .01      .002 No_date   12:00  37.34  n/a     .000
03198>                      +     1.0 02:Site1          .48      .008 No_date   12:39  52.22  n/a     .000
03199>                      +     1.0 02:Site2          .45      .009 No_date   12:48  53.50  n/a     .000
03200>                    SUM=    1.0 01:J1            1.23      .044 No_date   12:14  52.76  n/a     .000
03201> R0125:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03202>     ROUTE CHANNEL   ->     1.0 02:J1            1.23      .044 No_date   12:14  52.76  n/a     .000
03203>       [RD*= 1.00] out<-    1.0 01:R1            1.23      .042 No_date   12:19  52.76  n/a     .000
03204>       [L/S/n=  143./ .394/.035]
03205>       (Vmax=  .333:Dmax=  .135)
03206> R0125:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03207>     ADD HYD                1.0 02:R1            1.23      .042 No_date   12:19  52.76  n/a     .000
03208>                      +     1.0 02:EXT3           .56      .048 No_date   12:13  46.39  n/a     .000
03209>                      +     1.0 02:EXT1          3.21      .155 No_date   12:40  46.39  n/a     .000
03210>                    SUM=    1.0 01:J2            5.00      .224 No_date   12:29  47.95  n/a     .000
03211> R0125:C00036------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03212>     ROUTE CHANNEL   ->     1.0 02:J2            5.00      .224 No_date   12:29  47.95  n/a     .000
03213>       [RD*= 1.00] out<-    1.0 01:R2            5.00      .223 No_date   12:31  47.95  n/a     .000
03214>       [L/S/n=  73./ .425/.035]
03215>       (Vmax=  .509:Dmax=  .269)
03216> R0125:C00037------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03217>     ADD HYD                1.0 02:R2            5.00      .223 No_date   12:31  47.95  n/a     .000
03218>                      +     1.0 02:EXT4           .31      .028 No_date   12:11  45.14  n/a     .000
03219>                    SUM=    1.0 01:J3            5.31      .242 No_date   12:27  47.79  n/a     .000
03220> R0125:C00038------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03221>     ROUTE CHANNEL   ->     1.0 02:J3            5.31      .242 No_date   12:27  47.79  n/a     .000
03222>       [RD*= 1.00] out<-    1.0 01:R3            5.31      .240 No_date   12:30  47.79  n/a     .000
03223>       [L/S/n=  92./ .274/.035]
03224>       (Vmax=  .416:Dmax=  .278)
03225> R0125:C00039------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03226>     ADD HYD                1.0 02:R3            5.31      .240 No_date   12:30  47.79  n/a     .000
03227>                      +     1.0 02:EXT5           .59      .036 No_date   12:21  41.61  n/a     .000
03228>                    SUM=    1.0 01:J4            5.90      .274 No_date   12:29  47.16  n/a     .000
03229> R0125:C00040------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03230>     ROUTE CHANNEL   ->     1.0 02:J4            5.90      .274 No_date   12:29  47.16  n/a     .000
03231>       [RD*= 1.00] out<-    1.0 01:R4            5.90      .259 No_date   12:39  47.16  n/a     .000
03232>       [L/S/n=  251./ .190/.035]
03233>       (Vmax=  .411:Dmax=  .315)
03234> R0125:C00041------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03235>     ADD HYD                1.0 02:R4            5.90      .259 No_date   12:39  47.16  n/a     .000
03236>                      +     1.0 02:EXT6           .86      .058 No_date   12:28  53.21  n/a     .000
03237>                      +     1.0 02:EXT7           .47      .045 No_date   12:13  50.35  n/a     .000
03238>                    SUM=    1.0 01:J5            7.23      .342 No_date   12:34  48.09  n/a     .000
03239> R0125:C00042------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03240>     ROUTE CHANNEL   ->     1.0 02:J5            7.23      .342 No_date   12:34  48.09  n/a     .000
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03241>       [RDT= 1.00] out<-    1.0 01:R5            7.23     .338 No_date   12:39   48.09  n/a     .000
03242>        [L/S/n=  237./ .644/.035]
03243>        {Vmax=  .671:Dmax=  .295}
03244> R0125:C00043------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03245>      ADD HYD              1.0 02:Pre10_1        .80     .057 No_date   12:11   36.35  n/a     .000
03246>                   +       1.0 02:Pre9_2         .01     .002 No_date   12:00   26.12  n/a     .000
03247>                   +       1.0 02:Pre2_2         .00     .000 No_date   12:00   43.92  n/a     .000
03248>                 SUM=      1.0 01:Pre            .81     .057 No_date   12:11   36.19  n/a     .000
03249> R0125:C00044------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03250>      ROUTE CHANNEL    ->    1.0 02:Pre            .81     .057 No_date   12:11   36.19  n/a     .000
03251>       [RDT= 1.00] out<-    1.0 01:R6             .81     .056 No_date   12:14   36.19  n/a     .000
03252>        [L/S/n=   77./ .776/.035]
03253>        {Vmax=  .492:Dmax=  .041}
03254> R0125:C00045------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03255>      ROUTE CHANNEL    ->    1.0 02:Pre9_1         .44     .026 No_date   12:17   36.35  n/a     .000
03256>       [RDT= 1.00] out<-    1.0 01:R7             .44     .025 No_date   12:21   36.35  n/a     .000
03257>        [L/S/n=  159./1.576/.035]
03258>        {Vmax=  .797:Dmax=  .008}
03259> R0125:C00046------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03260>      ADD HYD              1.0 02:R6             .81     .056 No_date   12:14   36.25  n/a     .000
03261>                   +       1.0 02:EXT10          .20     .011 No_date   12:20   36.34  n/a     .000
03262>                 SUM=      1.0 01:J6            1.02     .066 No_date   12:15   36.27  n/a     .000
03263> R0125:C00047------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03264>      ROUTE CHANNEL    ->    1.0 02:J6            1.02     .066 No_date   12:15   36.27  n/a     .000
03265>       [RDT= 1.00] out<-    1.0 01:R8            1.02     .065 No_date   12:18   36.27  n/a     .000
03266>        [L/S/n=   79./ .522/.035]
03267>        {Vmax=  .423:Dmax=  .049}
03268> R0125:C00048------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03269>      ADD HYD              1.0 02:R8            1.02     .065 No_date   12:18   36.31  n/a     .000
03270>                   +       1.0 02:R7             .44     .025 No_date   12:21   36.43  n/a     .000
03271>                 SUM=      1.0 01:J7            1.46     .090 No_date   12:19   36.34  n/a     .000
03272> R0125:C00049------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03273>      ROUTE CHANNEL    ->    1.0 02:J7            1.46     .090 No_date   12:19   36.34  n/a     .000
03274>       [RDT= 1.00] out<-    1.0 01:R9            1.46     .090 No_date   12:19   36.34  n/a     .000
03275>        [L/S/n=   29./ .887/.035]
03276>        {Vmax=  .543:Dmax=  .061}
03277> R0125:C00050------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03278>      ADD HYD              1.0 02:EXT9          3.57     .205 No_date   12:23   41.62  n/a     .000
03279>                   +       1.0 02:R9            1.46     .090 No_date   12:19   36.37  n/a     .000
03280>                   +       1.0 02:EXT8           .83     .058 No_date   12:19   45.14  n/a     .000
03281>                   +       1.0 02:R5            7.23     .338 No_date   12:39   48.09  n/a     .000
03282>                 SUM=      1.0 01:J8           13.09     .656 No_date   12:29   44.84  n/a     .000
03283> R0125:C00051------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03284>      ROUTE PIPE       ->    1.0 02:J8           13.09     .656 No_date   12:29   44.84  n/a     .000
03285> *    [RDT= 1.00] out<-    1.0 01:Outlet        13.09     .654 No_date   12:31   44.84  n/a     .000
03286>        [L/S/n=    8./ .010/.013]
03287>        {Vmax=  .447:Dmax= 1.197}
03288>        {Din=  .53:Dused=  1.46}
03289> ##############################################################################
03290> # STORMS
03291> ##############################################################################
03292>    ** END OF RUN :  149
03293>
03294> ************************************************************************************
03295>
03296>
03297>
03298>
03299>
03300>  RUN#:COMMAND#
03301> R0150:C00001------------------------------------------------------------------------
03302>      START
03303>       [TZERO =      .00 hrs on      0]
03304>       [METOUT=   2     (1=imperial, 2=metric output)]
03305>       [NSTORM=   1 ]
03306>       [NRUN  = 0150 ]
03307> ************************************************************************************
03308> #  SWMHYMO  / INPUT DATA FILE
03309> ************************************************************************************
03310> #  Project Name  : [5923 Ottawa St]
03311> #  Project Number: [P2710(a01)]
03312> #  Date          : [2025 April 28]
03313> #  Modeller      : [MM]
03314> #  Company       : JFSA Canada Inc.
03315> #  License #     : 2549237
03316> ************************************************************************************
03317> # Model developed to simulate runoff from subcatchments under post development conditions
03318> ************************************************************************************
03319> R0150:C00002------------------------------------------------------------------------
03320>      READ STORM
03321>       Filename = STORM.001
03322>       Comment  = 50 years SCS Type 2 Storm 24 Hours step 10 min, City of Ottawa
03323>       [SDT=10.00:SDUR=  24.00:PTOT=  96.53]
03324> ************************************************************************************
03325> R0150:C00003------------------------------------------------------------------------
03326>      DEFAULT VALUES
03327>       Filename = C:\Temp\20250910-PostDev\Ottawa.val
03328>       ICASEdv  = 1 (read and print data)
03329>       FileTitle= File comment: [Parameters for City of Ottawa Projects]
03330>                  THE FOLLOWING PARAMETERS ARE USED IN THE DESIGN STANDHYD COM
03331>       Horton's infiltration equation parameters:
03332>       [Fo= 76.20 mm/hr] [Fc=13.20 mm/hr] [DCAY= 4.14 /hr] [F=  .00 mm]
03333>       Parameters for PERVIOUS surfaces in STANDHYD:
03334>       [IAper=   4.67 mm] [LGP=40.00 m] [MNP= .250]
03335>       Parameters for IMPERVIOUS surfaces in STANDHYD:
03336>       [IAimp=   1.57 mm] [CLI= 1.50]   [MNI= .013]
03337>       Parameters used in NASHYD:
03338>       [Ia=     4.67 mm] [N= 3.00]
03339>       Average monthly Pan Evaporation data in    (mm)
03340>    JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
03341>   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
03342>       Average monthly Potential Evapotranspiration in    (mm)
03343>    JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
03344>   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
03345> ************************************************************************************
03346> # EXT1
03347> ************************************************************************************
03348> R0150:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03349>      CALIB NASHYD         1.0 01:EXT1          3.21     .182 No_date   12:40   54.31 .563     .000
03350>        [CN= 80.0: N= 3.00: Tp=  .72]
03351> ************************************************************************************
03352> # EXT2
03353> ************************************************************************************
03354> R0150:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03355>      CALIB NASHYD         1.0 01:EXT2           .28     .033 No_date   12:13   61.73 .640     .000
03356>        [CN= 85.0: N= 3.00: Tp=  .33]
03357> ************************************************************************************
03358> # EXT3
03359> ************************************************************************************
03360> R0150:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03361>      CALIB NASHYD         1.0 01:EXT3           .56     .057 No_date   12:13   54.31 .563     .000
03362>        [CN= 80.0: N= 3.00: Tp=  .32]
03363> ************************************************************************************
03364> # EXT4
03365> ************************************************************************************
03366> R0150:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03367>      CALIB NASHYD         1.0 01:EXT4           .31     .033 No_date   12:11   52.94 .548     .000
03368>        [CN= 79.0: N= 3.00: Tp=  .29]
03369> ************************************************************************************
03370> # EXT5
03371> ************************************************************************************
03372> R0150:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03373>      CALIB NASHYD         1.0 01:EXT5           .59     .042 No_date   12:21   49.04 .508     .000
03374>        [CN= 76.0: N= 3.00: Tp=  .45]
03375> ************************************************************************************
03376> # EXT6
03377> ************************************************************************************
03378> R0150:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03379>      CALIB NASHYD         1.0 01:EXT6           .86     .068 No_date   12:28   61.73 .640     .000
03380>        [CN= 85.0: N= 3.00: Tp=  .56]
03381> ************************************************************************************
03382> # EXT7
03383> ************************************************************************************
03384> R0150:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03385>      CALIB NASHYD         1.0 01:EXT7           .47     .052 No_date   12:12   58.64 .608     .000
03386>        [CN= 83.0: N= 3.00: Tp=  .32]
03387> ************************************************************************************
03388> # EXT8
03389> ************************************************************************************
03390> R0150:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03391>      CALIB NASHYD         1.0 01:EXT8           .83     .068 No_date   12:19   52.94 .548     .000
03392>        [CN= 79.0: N= 3.00: Tp=  .42]
03393> ************************************************************************************
03394> # EXT9
03395> ************************************************************************************
03396> R0150:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03397>      CALIB NASHYD         1.0 01:EXT9          3.57     .242 No_date   12:23   49.04 .508     .000
03398>        [CN= 76.0: N= 3.00: Tp=  .48]
03399> ************************************************************************************
03400> # EXT9a
03401> ************************************************************************************
03402> R0150:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03403>      CALIB NASHYD         1.0 01:EXT9a          .01     .002 No_date   12:00   51.60 .535     .000
03404>        [CN= 78.0: N= 3.00: Tp=  .04]
03405> ************************************************************************************
03406> # EXT10
03407> ************************************************************************************
03408> R0150:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03409>      CALIB NASHYD         1.0 01:EXT10          .20     .013 No_date   12:19   43.13 .447     .000
03410>        [CN= 71.0: N= 3.00: Tp=  .42]
03411> ************************************************************************************
03412> # Pre2_1
03413> ************************************************************************************
03414> R0150:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03415> *    CALIB NASHYD         1.0 01:Pre2_1         .01     .003 No_date   12:00   44.25 .458     .000
03416>        [CN= 72.0: N= 3.00: Tp=  .03]
03417> ************************************************************************************
03418> # Pre2_2
03419> ************************************************************************************
03420> R0150:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03421> *    CALIB NASHYD         1.0 01:Pre2_2         .00     .000 No_date   12:00   51.59 .535     .000
03422>        [CN= 78.0: N= 3.00: Tp=  .02]
03423> ************************************************************************************
03424> # Pre9_1
03425> ************************************************************************************
03426> R0150:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03427>      CALIB NASHYD         1.0 01:Pre9_1         .44     .030 No_date   12:17   43.13 .447     .000
03428>        [CN= 71.0: N= 3.00: Tp=  .38]
03429> ************************************************************************************
03430> # Pre9_2
03431> ************************************************************************************
03432> R0150:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03433> *    CALIB NASHYD         1.0 01:Pre9_2         .01     .002 No_date   12:00   31.44 .326     .000
03434>        [CN= 59.0: N= 3.00: Tp=  .03]
03435> ************************************************************************************
03436> # Pre10_1
03437> ************************************************************************************
03438> R0150:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03439>      CALIB NASHYD         1.0 01:Pre10_1        .80     .067 No_date   12:11   43.14 .447     .000
03440>        [CN= 71.0: N= 3.00: Tp=  .29]
03441> ************************************************************************************
03442> # Pre11_1
03443> ************************************************************************************
03444> R0150:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03445>      CALIB NASHYD         1.0 01:Pre11_1        .07     .008 No_date   12:06   51.60 .535     .000
03446>        [CN= 78.0: N= 3.00: Tp=  .11]
03447> ************************************************************************************
03448> # Site 1
03449> ************************************************************************************
03450> R0150:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03451>      DESIGN STANDHYD      1.0 01:S1-B1          .42     .098 No_date   12:00   53.53 .555     .000
03452>        [XIMP=.34:TIMP=.44]
03453>        [SLP=1.00:DT= 1.00]
03454>        [LOSS= 1 : HORTONS]
03455> ************************************************************************************
03456> # Site 1 - Roof
03457> ************************************************************************************
03458> R0150:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03459>      DESIGN STANDHYD      1.0 01:S1-Roof        .06     .021 No_date   12:00   94.29 .977     .000
03460>        [XIMP=.99:TIMP=.99]
03461>        [SLP=  .50:DT= 1.00]
03462>        [LOSS= 1 : HORTONS]
03463> R0150:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03464>      ROUTE RESERVOIR ->    1.0 02:S1-Roof        .06     .021 No_date   12:00   94.29 n/a      .000
03465>                      out <=    1.0 01:S1-Roof-Ou     .06     .003 No_date   12:05   94.28 n/a      .000
03466>                overflow <=    1.0 03:S1-Roof-Ov     .00     .000 No_date   0:00    .00  n/a      .000
03467>       (MxStoUsed=.2792E-02  m3, TotOvfVol=.0000E+00  m3, No-Ovf=    0, TotDurOvf=    0.hrs)
03468> R0150:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03469>      ADD HYD              1.0 02:S1-B1          .42     .098 No_date   12:00   53.53 n/a      .000
03470>                   +       1.0 02:S1-Roof-Ou     .06     .003 No_date   12:05   94.28 n/a      .000
03471>                   +       1.0 02:S1-Roof-Ov     .00     .000 No_date   0:00    .00  n/a      .000
03472>                 SUM=      1.0 01:S1TE1-IN       .48     .101 No_date   12:00   59.05 n/a      .000
03473> R0150:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03474>      ROUTE RESERVOIR ->    1.0 02:S1TE1-IN       .48     .101 No_date   12:00   59.05 n/a      .000
03475>                      out <=    1.0 01:S1TE1-Out      .48     .008 No_date   12:42   59.05 n/a      .000
03476>                overflow <=    1.0 03:S1TE1-Over     .00     .000 No_date   0:00    .00  n/a      .000
03477>       (MxStoUsed=.1364E-01  m3, TotOvfVol=.0000E+00  m3, No-Ovf=    0, TotDurOvf=    0.hrs)
03478> ************************************************************************************
03479> # Site 2
03480> ************************************************************************************
03481> R0150:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03482>      DESIGN STANDHYD      1.0 01:S2-B3          .35     .082 No_date   12:00   51.56 .534     .000
03483>        [XIMP=.31:TIMP=.41]
03484>        [SLP=1.00:DT= 1.00]
03485>        [LOSS= 1 : HORTONS]
03486> ************************************************************************************
03487> # Site 2 - Roof
03488> ************************************************************************************
03489> R0150:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03490>      DESIGN STANDHYD      1.0 01:S2-Roof        .09     .030 No_date   12:00   94.28 .977     .000
03491>        [XIMP=.99:TIMP=.99]
03492>        [SLP=  .50:DT= 1.00]
03493>        [LOSS= 1 : HORTONS]
03494> ************************************************************************************
03495> R0150:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03496>      ROUTE RESERVOIR ->    1.0 02:S2-Roof        .09     .030 No_date   12:00   94.28 n/a      .000
03497>                      out <=    1.0 01:S2-Roof-Ou     .09     .008 No_date   12:02   94.29 n/a      .000
03498>                overflow <=    1.0 03:S2-Roof-Ov     .00     .000 No_date   0:00    .00  n/a      .000
03499>       (MxStoUsed=.2543E-02  m3, TotOvfVol=.0000E+00  m3, No-Ovf=    0, TotDurOvf=    0.hrs)
03500> R0150:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03501>      ADD HYD              1.0 02:S2-B3          .35     .082 No_date   12:00   51.56 n/a      .000
03502>                   +       1.0 02:S2-Roof-Ou     .09     .008 No_date   12:02   94.29 n/a      .000
03503>                   +       1.0 02:S2-Roof-Ov     .00     .000 No_date   0:00    .00  n/a      .000
03504>                 SUM=      1.0 01:S1TE2-IN       .45     .090 No_date   12:00   60.45 n/a      .000
03505> R0150:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03506>      ROUTE RESERVOIR ->    1.0 02:S1TE2-IN       .45     .090 No_date   12:00   60.45 n/a      .000
03507>                      out <=    1.0 01:S1TE2-Out      .45     .009 No_date   12:52   60.45 n/a      .000
03508>                overflow <=    1.0 03:S1TE2-Over     .00     .000 No_date   0:00    .00  n/a      .000
03509>       (MxStoUsed=.1300E-01  m3, TotOvfVol=.0000E+00  m3, No-Ovf=    0, TotDurOvf=    0.hrs)
03510> R0150:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03511>      ADD HYD              1.0 02:S1TE1-Out      .48     .008 No_date   12:42   59.05 n/a      .000
03512>                   +       1.0 02:S1TE1-Over     .00     .000 No_date   0:00    .00  n/a      .000
03513>                 SUM=      1.0 01:Site1          .48     .008 No_date   12:42   59.05 n/a      .000
03514> R0150:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03515>      ADD HYD              1.0 02:S1TE2-Out      .45     .009 No_date   12:52   60.45 n/a      .000
03516>                   +       1.0 02:S1TE2-Over     .00     .000 No_date   0:00    .00  n/a      .000
03517>                 SUM=      1.0 01:Site2          .45     .009 No_date   12:52   60.45 n/a      .000
03518> R0150:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03519>      ADD HYD              1.0 02:Pre2_2         .28     .033 No_date   12:13   61.73 n/a      .000
03520>                   +       1.0 02:Pre2_1         .01     .003 No_date   12:00   44.25 n/a      .000
03521>                   +       1.0 02:Site1          .48     .008 No_date   12:42   59.05 n/a      .000
03522>                   +       1.0 02:Site2          .45     .009 No_date   12:52   60.45 n/a      .000
03523>                 SUM=      1.0 01:J1            1.23     .049 No_date   12:14   60.03 n/a      .000
03524> R0150:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03525>      ROUTE CHANNEL    ->    1.0 02:J1            1.23     .049 No_date   12:14   60.03 n/a      .000
03526>       [RDT= 1.00] out<-    1.0 01:R1            1.23     .047 No_date   12:19   60.03 n/a      .000
03527>        [L/S/n=  143./ .394/.035]
03528>        {Vmax=  .347:Dmax=  .143}
03529> R0150:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03530>      ADD HYD              1.0 02:R1            1.23     .047 No_date   12:19   60.03 n/a      .000
03531>                   +       1.0 02:EXT3           .56     .057 No_date   12:13   54.31 n/a      .000
03532>                   +       1.0 02:EXT1          3.21     .182 No_date   12:40   54.31 n/a      .000
03533>                 SUM=      1.0 01:J2            5.00     .260 No_date   12:28   55.71 n/a      .000
03534> R0150:C00036------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03535>      ROUTE CHANNEL    ->    1.0 02:J2            5.00     .260 No_date   12:28   55.71 n/a      .000
03536>       [RDT= 1.00] out<-    1.0 01:R2            5.00     .259 No_date   12:30   55.71 n/a      .000
03537>        [L/S/n=   73./ .425/.035]
03538>        {Vmax=  .527:Dmax=  .285}
03539> R0150:C00037------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03540>      ADD HYD              1.0 02:R2            5.00     .259 No_date   12:30   55.71 n/a      .000
03541>                   +       1.0 02:EXT4           .31     .033 No_date   12:11   52.94 n/a      .000
03542>                 SUM=      1.0 01:J3            5.31     .281 No_date   12:27   55.55 n/a      .000
03543> R0150:C00038------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03544>      ROUTE CHANNEL    ->    1.0 02:J3            5.31     .281 No_date   12:27   55.55 n/a      .000
03545>       [RDT= 1.00] out<-    1.0 01:R3            5.31     .279 No_date   12:30   55.55 n/a      .000
03546>        [L/S/n=   92./ .274/.035]
03547>        {Vmax=  .432:Dmax=  .295}
03548> R0150:C00039------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03549>      ADD HYD              1.0 02:R3            5.31     .279 No_date   12:30   55.55 n/a      .000
03550>                   +       1.0 02:EXT5           .59     .042 No_date   12:21   49.04 n/a      .000
03551>                 SUM=      1.0 01:J4            5.90     .320 No_date   12:28   54.89 n/a      .000
03552> R0150:C00040------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03553>      ROUTE CHANNEL    ->    1.0 02:J4            5.90     .320 No_date   12:28   54.89 n/a      .000
03554>       [RDT= 1.00] out<-    1.0 01:R4            5.90     .303 No_date   12:38   54.89 n/a      .000
03555>        [L/S/n=  251./ .190/.035]
03556>        {Vmax=  .429:Dmax=  .337}
03557> R0150:C00041------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03558>      ADD HYD              1.0 02:R4            5.90     .303 No_date   12:38   54.89 n/a      .000
03559>                   +       1.0 02:EXT6           .86     .068 No_date   12:28   61.73 n/a      .000
03560>                   +       1.0 02:EXT7           .47     .052 No_date   12:12   58.64 n/a      .000
03561>                 SUM=      1.0 01:J5            7.23     .400 No_date   12:33   55.95 n/a      .000
03562> R0150:C00042------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03563>      ROUTE CHANNEL    ->    1.0 02:J5            7.23     .400 No_date   12:33   55.95 n/a      .000
03564>       [RDT= 1.00] out<-    1.0 01:R5            7.23     .396 No_date   12:38   55.95 n/a      .000
03565>        [L/S/n=  237./ .644/.035]
03566>        {Vmax=  .705:Dmax=  .314}
03567> R0150:C00043------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03568>      ADD HYD              1.0 02:Pre10_1        .80     .067 No_date   12:11   43.14 n/a      .000
03569>                   +       1.0 02:Pre9_2         .01     .002 No_date   12:00   31.44 n/a      .000
03570>                   +       1.0 02:Pre2_2         .00     .000 No_date   12:00   51.59 n/a      .000
03571>                 SUM=      1.0 01:Pre            .81     .068 No_date   12:11   42.96 n/a      .000
03572> R0150:C00044------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03573>      ROUTE CHANNEL    ->    1.0 02:Pre           .81     .068 No_date   12:11   42.96 n/a      .000
03574>       [RDT= 1.00] out<-    1.0 01:R6            .81     .066 No_date   12:14   42.95 n/a      .000
03575>        [L/S/n=   77./ .776/.035]
03576>        {Vmax=  .492:Dmax=  .049}
03577> R0150:C00045------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03578>      ROUTE CHANNEL    ->    1.0 02:Pre9_1         .44     .030 No_date   12:17   43.13 n/a      .000
03579>       [RDT= 1.00] out<-    1.0 01:R7            .44     .030 No_date   12:20   43.13 n/a      .000
03580>        [L/S/n=  159./1.576/.035]
03581>        {Vmax=  .797:Dmax=  .009}
03582> R0150:C00046------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03583>      ADD HYD              1.0 02:R6             .81     .066 No_date   12:14   43.02 n/a      .000
03584>                   +       1.0 02:EXT10          .20     .013 No_date   12:19   43.13 n/a      .000
03585>                 SUM=      1.0 01:J6            1.02     .079 No_date   12:14   43.04 n/a      .000
03586> R0150:C00047------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03587>      ROUTE CHANNEL    ->    1.0 02:J6            1.02     .079 No_date   12:14   43.04 n/a      .000
03588>       [RDT= 1.00] out<-    1.0 01:R8            1.02     .078 No_date   12:18   43.04 n/a      .000
03589>        [L/S/n=   79./ .522/.035]
03590>        {Vmax=  .423:Dmax=  .058}
03591> R0150:C00048------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03592>      ADD HYD              1.0 02:R8            1.02     .078 No_date   12:18   43.08 n/a      .000
03593>                   +       1.0 02:R7             .44     .030 No_date   12:20   43.23 n/a      .000
03594>                 SUM=      1.0 01:J7            1.46     .107 No_date   12:18   43.13 n/a      .000
03595> R0150:C00049------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03596>      ROUTE CHANNEL    ->    1.0 02:J7            1.46     .107 No_date   12:18   43.13 n/a      .000
03597>       [RDT= 1.00] out<-    1.0 01:R9            1.46     .107 No_date   12:19   43.13 n/a      .000
03598>        [L/S/n=   29./ .887/.035]
03599>        {Vmax=  .543:Dmax=  .073}
03600> R0150:C00050------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
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03601>     ADD HYD                1.0 02:EXT9          3.57     .242 No_date   12:23   49.04  n/a     .000
03602>                      +     1.0 02:R9            1.46     .107 No_date   12:19   43.15  n/a     .000
03603>                      +     1.0 02:EXT8           .83     .068 No_date   12:19   52.94  n/a     .000
03604>                      +     1.0 02:R5            7.23     .396 No_date   12:38   55.95  n/a     .000
03605>                    SUM=    1.0 01:J8           13.09     .776 No_date   12:28   52.45  n/a     .000
03606> R0150:C00051------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
03607>      ROUTE PIPE      ->    1.0 02:J8           13.09     .776 No_date   12:28   52.45  n/a     .000
03608> *   [RDT= 1.00] out<-     1.0 01:Outlet        13.09     .775 No_date   12:30   52.45  n/a     .000
03609>       [L/S/n=   8./ .010/.013]
03610>       (Vmax=  .467:Dmax= 1.275)
03611>       [Din=  .53:Duse= 1.55)
03612> ################################################################################
03613> # STORMS
03614> ################################################################################
03615>   ** END OF RUN :  198
03616>
03617> ********************************************************************************
03618>
03619>
03620>
03621>
03622>
03623>  RUN#:COMMAND#
03624> R0199:C00001------------------------------------------------------------------------------
03625>       START
03626>         [TZERO =    .00 hrs on        0]
03627>         [METOUT=   2    (1=imperial, 2=metric output)]
03628>         [NSTORM=   1 ]
03629>         [NRUN  = 0199 ]
03630> ********************************************************************************
03631> #  SWMHYMO  / INPUT DATA FILE
03632> ********************************************************************************
03633> #  Project Name  : [5923 Ottawa St]
03634> #  Project Number: [P2710(e01)]
03635> #  Date          : [2025 April 28]
03636> #  Modeller      : [MM]
03637> #  Company       : JFSA Canada Inc.
03638> #  License #     : 2549237
03639> ********************************************************************************
03640> # Model developed to simulate runoff from subcatchments under post development conditions
03641> ********************************************************************************
03642> R0199:C00002------------------------------------------------------------------------------
03643>       READ STORM
03644>         Filename = STORM.001
03645>         Comment  = 100 years SCS Type 2 Storm 24 Hours step 10 min, City of Ottawa
03646>         [SDT=10.00:SDUR=  24.00:PTOT= 106.73]
03647> ********************************************************************************
03648> R0199:C00003------------------------------------------------------------------------------
03649>       DEFAULT VALUES
03650>         Filename = C:\Temp\20250910-PostDev\Ottawa.val
03651>         ICASEdv  = 1 (read and print data)
03652>         FileTitle= File comment: [Parameters for City of Ottawa Projects]
03653>                    THE FOLLOWING PARAMETERS ARE USED IN THE DESIGN STANDHYD COM
03654>         Horton's infiltration equation parameters:
03655>         [F0= 76.20 mm/hr] [Fc=13.20 mm/hr] [DCAY= 4.14 /hr] [F=  .00 mm]
03656>         Parameters for IMPERVIOUS surfaces in STANDHYD:
03657>         [IAperc=   4.67 mm] [LGF=40.00 m] [MNP=  .250]
03658>         Parameters for PERVIOUS surfaces in STANDHYD:
03659>         [IAimp=   1.57 mm] [CLI=  1.50]   [MNI=  .013]
03660>         Parameters used in NASHYD:
03661>         [Ia=   4.67 mm] [N= 3.00]
03662>         Average monthly Pan Evaporation data in    (mm)
03663>     JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
03664>     .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
03665>         Average monthly Potential Evapotranspiration in    (mm)
03666>     JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
03667>     .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
03668> ********************************************************************************
03669> # EXT1
03670> ********************************************************************************
03671> R0199:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
03672>      CALIB NASHYD           1.0 01:EXT1          3.21     .212 No_date   12:39   62.92 .589     .000
03673>        [CN= 80.0: N= 3.00: Tp=  .72]
03674> ********************************************************************************
03675> # EXT2
03676> ********************************************************************************
03677> R0199:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
03678>      CALIB NASHYD           1.0 01:EXT2           .28     .037 No_date   12:13   70.91 .664     .000
03679>        [CN= 85.0: N= 3.00: Tp=  .33]
03680> ********************************************************************************
03681> # EXT3
03682> ********************************************************************************
03683> R0199:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
03684>      CALIB NASHYD           1.0 01:EXT3           .56     .066 No_date   12:13   62.92 .589     .000
03685>        [CN= 80.0: N= 3.00: Tp=  .32]
03686> ********************************************************************************
03687> # EXT4
03688> ********************************************************************************
03689> R0199:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
03690>      CALIB NASHYD           1.0 01:EXT4           .31     .038 No_date   12:11   61.42 .576     .000
03691>        [CN= 79.0: N= 3.00: Tp=  .29]
03692> ********************************************************************************
03693> # EXT5
03694> ********************************************************************************
03695> R0199:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
03696>      CALIB NASHYD           1.0 01:EXT5           .59     .049 No_date   12:21   57.15 .535     .000
03697>        [CN= 76.0: N= 3.00: Tp=  .45]
03698> ********************************************************************************
03699> # EXT6
03700> ********************************************************************************
03701> R0199:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
03702>      CALIB NASHYD           1.0 01:EXT6           .86     .078 No_date   12:28   70.92 .664     .000
03703>        [CN= 85.0: N= 3.00: Tp=  .56]
03704> ********************************************************************************
03705> # EXT7
03706> ********************************************************************************
03707> R0199:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
03708>      CALIB NASHYD           1.0 01:EXT7           .47     .060 No_date   12:12   67.60 .633     .000
03709>        [CN= 83.0: N= 3.00: Tp=  .32]
03710> ********************************************************************************
03711> # EXT8
03712> ********************************************************************************
03713> R0199:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
03714>      CALIB NASHYD           1.0 01:EXT8           .83     .079 No_date   12:19   61.42 .576     .000
03715>        [CN= 79.0: N= 3.00: Tp=  .42]
03716> ********************************************************************************
03717> # EXT9
03718> ********************************************************************************
03719> R0199:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
03720>      CALIB NASHYD           1.0 01:EXT9          3.57     .284 No_date   12:23   57.15 .535     .000
03721>        [CN= 76.0: N= 3.00: Tp=  .48]
03722> ********************************************************************************
03723> # EXT9a
03724> ********************************************************************************
03725> R0199:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
03726>      CALIB NASHYD           1.0 01:EXT9a          .01     .003 No_date   12:00   59.96 .562     .000
03727>        [CN= 78.0: N= 3.00: Tp=  .04]
03728> ********************************************************************************
03729> # EXT10
03730> ********************************************************************************
03731> R0199:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
03732>      CALIB NASHYD           1.0 01:EXT10          .20     .016 No_date   12:19   50.61 .474     .000
03733>        [CN= 71.0: N= 3.00: Tp=  .42]
03734> ********************************************************************************
03735> # Pre2_1
03736> ********************************************************************************
03737> R0199:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
03738> *    CALIB NASHYD           1.0 01:Pre2_1         .01     .003 No_date   12:00   51.86 .486     .000
03739>        [CN= 72.0: N= 3.00: Tp=  .03]
03740> ********************************************************************************
03741> # Pre2_2
03742> ********************************************************************************
03743> R0199:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
03744> *    CALIB NASHYD           1.0 01:Pre2_2         .00     .001 No_date   12:00   59.95 .562     .000
03745>        [CN= 78.0: N= 3.00: Tp=  .02]
03746> ********************************************************************************
03747> # Pre9_1
03748> ********************************************************************************
03749> R0199:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
03750>      CALIB NASHYD           1.0 01:Pre9_1         .44     .036 No_date   12:17   50.61 .474     .000
03751>        [CN= 71.0: N= 3.00: Tp=  .38]
03752> ********************************************************************************
03753> # Pre9_2
03754> ********************************************************************************
03755> R0199:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
03756> *    CALIB NASHYD           1.0 01:Pre9_2         .01     .002 No_date   12:00   37.39 .350     .000
03757>        [CN= 59.0: N= 3.00: Tp=  .03]
03758> ********************************************************************************
03759> # Pre10_1
03760> ********************************************************************************
03761> R0199:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
03762>      CALIB NASHYD           1.0 01:Pre10_1        .80     .079 No_date   12:11   50.61 .474     .000
03763>        [CN= 71.0: N= 3.00: Tp=  .29]
03764> ********************************************************************************
03765> # Pre11_1
03766> ********************************************************************************
03767> R0199:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
03768>      CALIB NASHYD           1.0 01:Pre11_1        .07     .010 No_date   12:06   59.96 .562     .000
03769>        [CN= 78.0: N= 3.00: Tp=  .21]
03770> ********************************************************************************
03771> # Site 1
03772> ********************************************************************************
03773> R0199:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
03774>      DESIGN STANDHYD        1.0 01:S1-B1          .42     .112 No_date   12:00   60.12 .563     .000
03775>        [XIMP=.34:TIMP=.44]
03776>        [SLP=1.00:DT= 1.00]
03777>        [LOSS= 1 : HORTONS]
03778> ********************************************************************************
03779> # Site 1 - Roof
03780> ********************************************************************************
03781> R0199:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
03782>      DESIGN STANDHYD        1.0 01:S1-Roof        .06     .024 No_date   12:00  104.42 .978     .000
03783>        [XIMP=.99:TIMP=.99]
03784>        [SLP=  .50:DT= 1.00]
03785>        [LOSS= 1 : HORTONS]
03786> R0199:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
03787>      ROUTE RESERVOIR ->     1.0 02:S1-Roof        .06     .024 No_date   12:00  104.42  n/a     .000
03788>                        out <=    1.0 01:S1-Roof-Ou     .06     .003 No_date   12:05  104.42  n/a     .000
03789>                     overflow <=    1.0 03:S1-Roof-Ov     .00     .000 No_date   0:00    .00  n/a     .000
03790>        (MxStoUsed=.3091E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=     0, TotDurOvf=    0.hrs)
03791> R0199:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
03792>      ADD HYD                1.0 02:S1-B1          .42     .112 No_date   12:00   60.12  n/a     .000
03793>                      +     1.0 02:S1-Roof-Ou     .06     .003 No_date   12:05  104.42  n/a     .000
03794>                      +     1.0 02:S1-Roof-Ov     .00     .000 No_date   0:00    .00  n/a     .000
03795>                    SUM=    1.0 01:SITE1-IN       .48     .115 No_date   12:00   66.12  n/a     .000
03796> R0199:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
03797>      ROUTE RESERVOIR ->     1.0 02:SITE1-IN       .48     .115 No_date   12:00   66.12  n/a     .000
03798>                        out <=    1.0 01:SITE1-Out      .48     .008 No_date   12:44   66.12  n/a     .000
03799>                     overflow <=    1.0 03:SITE1-Over     .00     .000 No_date   0:00    .00  n/a     .000
03800>        (MxStoUsed=.1568E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=     0, TotDurOvf=    0.hrs)
03801> ********************************************************************************
03802> # Site 2
03803> ********************************************************************************
03804> R0199:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
03805>      DESIGN STANDHYD        1.0 01:S2-B3          .35     .094 No_date   12:00   58.00 .543     .000
03806>        [XIMP=.31:TIMP=.41]
03807>        [SLP=1.00:DT= 1.00]
03808>        [LOSS= 1 : HORTONS]
03809> ********************************************************************************
03810> # Site 2 - Roof
03811> ********************************************************************************
03812> R0199:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
03813>      DESIGN STANDHYD        1.0 01:S2-Roof        .09     .034 No_date   12:00  104.44 .979     .000
03814>        [XIMP=.99:TIMP=.99]
03815>        [SLP=  .50:DT= 1.00]
03816>        [LOSS= 1 : HORTONS]
03817> ********************************************************************************
03818> R0199:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
03819>      ROUTE RESERVOIR ->     1.0 02:S2-Roof        .09     .034 No_date   12:00  104.44  n/a     .000
03820>                        out <=    1.0 01:S2-Roof-Ou     .09     .008 No_date   12:02  104.45  n/a     .000
03821>                     overflow <=    1.0 03:S2-Roof-Ov     .00     .000 No_date   0:00    .00  n/a     .000
03822>        (MxStoUsed=.2875E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=     0, TotDurOvf=    0.hrs)
03823> R0199:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
03824>      ADD HYD                1.0 02:S2-B3          .35     .094 No_date   12:00   58.00  n/a     .000
03825>                      +     1.0 02:S2-Roof-Ou     .09     .008 No_date   12:02  104.45  n/a     .000
03826>                      +     1.0 02:S2-Roof-Ov     .00     .000 No_date   0:00    .00  n/a     .000
03827>                    SUM=    1.0 01:SITE2-IN       .45     .103 No_date   12:00   67.66  n/a     .000
03828> R0199:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
03829>      ROUTE RESERVOIR ->     1.0 02:SITE2-IN       .45     .103 No_date   12:00   67.66  n/a     .000
03830>                        out <=    1.0 01:SITE2-Out      .45     .009 No_date   12:56   67.66  n/a     .000
03831>                     overflow <=    1.0 03:SITE2-Over     .00     .000 No_date   0:00    .00  n/a     .000
03832>        (MxStoUsed=.1485E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=     0, TotDurOvf=    0.hrs)
03833> R0199:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
03834>      ADD HYD                1.0 02:SITE1-Out      .48     .008 No_date   12:44   66.12  n/a     .000
03835>                      +     1.0 02:SITE2-Over     .00     .000 No_date   0:00    .00  n/a     .000
03836>                    SUM=    1.0 01:Site1          .48     .008 No_date   12:44   66.12  n/a     .000
03837> R0199:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
03838>      ADD HYD                1.0 02:SITE2-Out      .45     .009 No_date   12:56   67.66  n/a     .000
03839>                      +     1.0 02:SITE2-Over     .00     .000 No_date   0:00    .00  n/a     .000
03840>                    SUM=    1.0 01:Site2          .45     .009 No_date   12:56   67.66  n/a     .000
03841> R0199:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
03842>      ADD HYD                1.0 02:EXT2           .28     .037 No_date   12:13   70.91  n/a     .000
03843>                      +     1.0 02:Pre2_1         .01     .003 No_date   12:00   51.86  n/a     .000
03844>                      +     1.0 02:Site1          .48     .008 No_date   12:44   66.12  n/a     .000
03845>                      +     1.0 02:Site2          .45     .009 No_date   12:56   67.66  n/a     .000
03846>                    SUM=    1.0 01:J1            1.23     .055 No_date   12:13   67.65  n/a     .000
03847> R0199:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
03848>      ROUTE CHANNEL   ->     1.0 02:J1            1.23     .055 No_date   12:13   67.65  n/a     .000
03849>        [RDT= 1.00] out<-     1.0 01:R1            1.23     .053 No_date   12:19   67.65  n/a     .000
03850>         [L/S/n=  143./ .394/.035]
03851>         (Vmax=  .357:Dmax=  .149)
03852> R0199:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
03853>      ADD HYD                1.0 02:R1            1.23     .053 No_date   12:19   67.65  n/a     .000
03854>                      +     1.0 02:EXT3           .56     .066 No_date   12:13   62.92  n/a     .000
03855>                      +     1.0 02:EXT1          3.21     .212 No_date   12:39   62.92  n/a     .000
03856>                    SUM=    1.0 01:J2            5.00     .300 No_date   12:28   64.08  n/a     .000
03857> R0199:C00036------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
03858>      ROUTE CHANNEL   ->     1.0 02:J2            5.00     .300 No_date   12:28   64.08  n/a     .000
03859>        [RDT= 1.00] out<-     1.0 01:R2            5.00     .299 No_date   12:30   64.08  n/a     .000
03860>         [L/S/n=   73./ .425/.035]
03861>         (Vmax=  .548:Dmax=  .302)
03862> R0199:C00037------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
03863>      ADD HYD                1.0 02:R2            5.00     .299 No_date   12:30   64.08  n/a     .000
03864>                      +     1.0 02:EXT4           .31     .038 No_date   12:11   61.42  n/a     .000
03865>                    SUM=    1.0 01:J3            5.31     .325 No_date   12:26   63.92  n/a     .000
03866> R0199:C00038------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
03867>      ROUTE CHANNEL   ->     1.0 02:J3            5.31     .325 No_date   12:26   63.92  n/a     .000
03868>        [RDT= 1.00] out<-     1.0 01:R3            5.31     .323 No_date   12:29   63.92  n/a     .000
03869>         [L/S/n=   92./ .274/.035]
03870>         (Vmax=  .449:Dmax=  .313)
03871> R0199:C00039------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
03872>      ADD HYD                1.0 02:R3            5.31     .323 No_date   12:29   63.92  n/a     .000
03873>                      +     1.0 02:EXT5           .59     .049 No_date   12:21   57.15  n/a     .000
03874>                    SUM=    1.0 01:J4            5.90     .370 No_date   12:28   63.24  n/a     .000
03875> R0199:C00040------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
03876>      ROUTE CHANNEL   ->     1.0 02:J4            5.90     .370 No_date   12:28   63.24  n/a     .000
03877>        [RDT= 1.00] out<-     1.0 01:R4            5.90     .352 No_date   12:37   63.24  n/a     .000
03878>         [L/S/n=  251./ .190/.035]
03879>         (Vmax=  .447:Dmax=  .359)
03880> R0199:C00041------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
03881>      ADD HYD                1.0 02:R4            5.90     .352 No_date   12:37   63.24  n/a     .000
03882>                      +     1.0 02:EXT6           .86     .078 No_date   12:28   70.92  n/a     .000
03883>                      +     1.0 02:EXT7           .47     .060 No_date   12:12   67.60  n/a     .000
03884>                    SUM=    1.0 01:J5            7.23     .465 No_date   12:32   64.44  n/a     .000
03885> R0199:C00042------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
03886>      ROUTE CHANNEL   ->     1.0 02:J5            7.23     .465 No_date   12:32   64.44  n/a     .000
03887>        [RDT= 1.00] out<-     1.0 01:R5            7.23     .459 No_date   12:37   64.44  n/a     .000
03888>         [L/S/n=  237./ .644/.035]
03889>         (Vmax=  .732:Dmax=  .333)
03890> R0199:C00043------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
03891>      ADD HYD                1.0 02:Pre10_1        .80     .079 No_date   12:11   50.61  n/a     .000
03892>                      +     1.0 02:Pre9_2         .01     .002 No_date   12:00   37.39  n/a     .000
03893>                      +     1.0 02:Pre2_2         .00     .001 No_date   12:00   59.95  n/a     .000
03894>                    SUM=    1.0 01:Pre           .81     .080 No_date   12:11   50.41  n/a     .000
03895> R0199:C00044------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
03896>      ROUTE CHANNEL   ->     1.0 02:Pre           .81     .080 No_date   12:11   50.41  n/a     .000
03897>        [RDT= 1.00] out<-     1.0 01:R6            .81     .078 No_date   12:14   50.41  n/a     .000
03898>         [L/S/n=   77./ .776/.035]
03899>         (Vmax=  .492:Dmax=  .058)
03900> R0199:C00045------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
03901>      ROUTE CHANNEL   ->     1.0 02:Pre9_1         .44     .036 No_date   12:17   50.61  n/a     .000
03902>        [RDT= 1.00] out<-     1.0 01:R7            .44     .035 No_date   12:20   50.61  n/a     .000
03903>         [L/S/n=  159./1.576/.035]
03904>         (Vmax=  .797:Dmax=  .011)
03905> R0199:C00046------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
03906>      ADD HYD                1.0 02:R6            .81     .078 No_date   12:14   50.48  n/a     .000
03907>                      +     1.0 02:EXT10          .20     .016 No_date   12:19   50.61  n/a     .000
03908>                    SUM=    1.0 01:J6            1.02     .093 No_date   12:14   50.51  n/a     .000
03909> R0199:C00047------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
03910>      ROUTE CHANNEL   ->     1.0 02:J6            1.02     .093 No_date   12:14   50.51  n/a     .000
03911>        [RDT= 1.00] out<-     1.0 01:R8            1.02     .091 No_date   12:18   50.51  n/a     .000
03912>         [L/S/n=   79./ .522/.035]
03913>         (Vmax=  .423:Dmax=  .068)
03914> R0199:C00048------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
03915>      ADD HYD                1.0 02:R8            1.02     .091 No_date   12:18   50.55  n/a     .000
03916>                      +     1.0 02:R7            .44     .035 No_date   12:20   50.71  n/a     .000
03917>                    SUM=    1.0 01:J7            1.46     .126 No_date   12:18   50.60  n/a     .000
03918> R0199:C00049------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
03919>      ROUTE CHANNEL   ->     1.0 02:J7            1.46     .126 No_date   12:18   50.60  n/a     .000
03920>        [RDT= 1.00] out<-     1.0 01:R9            1.46     .126 No_date   12:19   50.60  n/a     .000
03921>         [L/S/n=   29./ .887/.035]
03922>         (Vmax=  .543:Dmax=  .086)
03923> R0199:C00050------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
03924>      ADD HYD                1.0 02:EXT9          3.57     .284 No_date   12:23   57.15  n/a     .000
03925>                      +     1.0 02:R9            1.46     .126 No_date   12:19   50.62  n/a     .000
03926>                      +     1.0 02:EXT8           .83     .079 No_date   12:19   61.43  n/a     .000
03927>                      +     1.0 02:R5            7.23     .459 No_date   12:37   64.44  n/a     .000
03928>                    SUM=    1.0 01:J8           13.09     .906 No_date   12:28   60.72  n/a     .000
03929> R0199:C00051------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
03930>      ROUTE PIPE      ->    1.0 02:J8           13.09     .906 No_date   12:28   60.72  n/a     .000
03931> *   [RDT= 1.00] out<-     1.0 01:Outlet        13.09     .903 No_date   12:30   60.72  n/a     .000
03932>       [L/S/n=   8./ .010/.013]
03933>       (Vmax=  .485:Dmax= 1.351)
03934>       [Din=  .53:Duse= 1.65)
03935> ################################################################################
03936> # STORMS
03937> ################################################################################
03938>   ** END OF RUN : 1978
03939>
03940> ********************************************************************************
03941>
03942>
03943>
03944>
03945>
03946>  RUN#:COMMAND#
03947> R1979:C00001------------------------------------------------------------------------------
03948>       START
03949>         [TZERO =    .00 hrs on        0]
03950>         [METOUT=   2    (1=imperial, 2=metric output)]
03951>         [NSTORM=   1 ]
03952>         [NRUN  = 1979 ]
03953> ********************************************************************************
03954> #  SWMHYMO  / INPUT DATA FILE
03955> ********************************************************************************
03956> #  Project Name  : [5923 Ottawa St]
03957> #  Project Number: [P2710(e01)]
03958> #  Date          : [2025 April 28]
03959> #  Modeller      : [MM]
03960> #  Company       : JFSA Canada Inc.
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03961> #  License #     : 2549237
03962> #*****************************************************************************************
03963> # Model developed to simulate runoff from subcatchments under post development conditions
03964> #*****************************************************************************************
03965> R1979:C00002-------------------------------------------------------------------------------
03966>       READ STORM
03967>        Filename = STORM.001
03968>        Comment  = July 1st, 1979 Storm (3H) - Ottawa International Airport step 5 min
03969>        [SDT= 5.00:SDUR=   3.00:PTOT=  83.99]
03970> #*****************************************************************************************
03971> R1979:C00003-------------------------------------------------------------------------------
03972>       DEFAULT VALUES
03973>        Filename = C:\Temp\20250910-PostDev\Ottawa.val
03974>        ICASEdv  = 1 (read and print data)
03975>        FileTitle= File comment: [Parameters for City of Ottawa Projects]
03976>                   THE FOLLOWING PARAMETERS ARE USED IN THE DESIGN STANDHYD COM
03977>        Horton's infiltration equation parameters:
03978>        [Fo= 76.20 mm/hr] [Fc=13.20 mm/hr] [DCAY= 4.14 /hr] [F=  .00 mm]
03979>        Parameters for PERVIOUS surfaces in STANDHYD:
03980>        [IAperv=   4.67 mm] [LGP=40.00 m] [MNP= .250]
03981>        Parameters for IMPERVIOUS surfaces in STANDHYD:
03982>        [IAimp=   1.57 mm] [CLI= 1.50]   [MNI= .013]
03983>        Parameters used in NASHYD:
03984>        [Ia=   4.67 mm] [N= 3.00]
03985>        Average monthly Pan Evaporation data in    (mm)
03986>     JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
03987>    .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
03988>        Average monthly Potential Evapotranspiration in    (mm)
03989>     JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
03990>    .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
03991> #*****************************************************************************************
03992> # EXT1
03993> #*****************************************************************************************
03994> R1979:C00004-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03995>      CALIB NASHYD            1.0 01:EXT1           3.21     .240 No_date    2:16   44.05 .524     .000
03996>        [CN= 80.0: N= 3.00: Tp=  .72]
03997> #*****************************************************************************************
03998> # EXT2
03999> #*****************************************************************************************
04000> R1979:C00005-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04001>      CALIB NASHYD            1.0 01:EXT2           .28     .039 No_date    1:50   50.68 .603     .000
04002>        [CN= 85.0: N= 3.00: Tp=  .33]
04003> #*****************************************************************************************
04004> # EXT3
04005> #*****************************************************************************************
04006> R1979:C00006-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04007>      CALIB NASHYD            1.0 01:EXT3           .56     .067 No_date    1:50   44.05 .524     .000
04008>        [CN= 80.0: N= 3.00: Tp=  .32]
04009> #*****************************************************************************************
04010> # EXT4
04011> #*****************************************************************************************
04012> R1979:C00007-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04013>      CALIB NASHYD            1.0 01:EXT4           .31     .038 No_date    1:48   42.84 .510     .000
04014>        [CN= 79.0: N= 3.00: Tp=  .29]
04015> #*****************************************************************************************
04016> # EXT5
04017> #*****************************************************************************************
04018> R1979:C00008-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04019>      CALIB NASHYD            1.0 01:EXT5           .59     .054 No_date    2:01   39.44 .470     .000
04020>        [CN= 76.0: N= 3.00: Tp=  .45]
04021> #*****************************************************************************************
04022> # EXT6
04023> #*****************************************************************************************
04024> R1979:C00009-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04025>      CALIB NASHYD            1.0 01:EXT6           .86     .088 No_date    2:06   50.68 .603     .000
04026>        [CN= 85.0: N= 3.00: Tp=  .56]
04027> #*****************************************************************************************
04028> # EXT7
04029> #*****************************************************************************************
04030> R1979:C00010-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04031>      CALIB NASHYD            1.0 01:EXT7           .47     .061 No_date    1:49   47.90 .570     .000
04032>        [CN= 83.0: N= 3.00: Tp=  .32]
04033> #*****************************************************************************************
04034> # EXT8
04035> #*****************************************************************************************
04036> R1979:C00011-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04037>      CALIB NASHYD            1.0 01:EXT8           .83     .085 No_date    1:58   42.85 .510     .000
04038>        [CN= 79.0: N= 3.00: Tp=  .42]
04039> #*****************************************************************************************
04040> # EXT9
04041> #*****************************************************************************************
04042> R1979:C00012-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04043>      CALIB NASHYD            1.0 01:EXT9          3.57     .311 No_date    2:03   39.44 .470     .000
04044>        [CN= 76.0: N= 3.00: Tp=  .48]
04045> #*****************************************************************************************
04046> # EXT9a
04047> #*****************************************************************************************
04048> R1979:C00013-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04049>      CALIB NASHYD            1.0 01:EXT9a          .01     .002 No_date    1:30   41.67 .496     .000
04050>        [CN= 78.0: N= 3.00: Tp=  .04]
04051> #*****************************************************************************************
04052> # EXT10
04053> #*****************************************************************************************
04054> R1979:C00014-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04055>      CALIB NASHYD            1.0 01:EXT10          .20     .017 No_date    1:59   34.36 .409     .000
04056>        [CN= 71.0: N= 3.00: Tp=  .42]
04057> #*****************************************************************************************
04058> # Pre2_1
04059> #*****************************************************************************************
04060> R1979:C00015-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04061> *    CALIB NASHYD            1.0 01:Pre2_1         .01     .002 No_date    1:30   35.32 .421     .000
04062>        [CN= 72.0: N= 3.00: Tp=  .03]
04063> #*****************************************************************************************
04064> # Pre2_2
04065> #*****************************************************************************************
04066> R1979:C00016-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04067> *    CALIB NASHYD            1.0 01:Pre2_2         .00     .000 No_date    1:30   41.63 .496     .000
04068>        [CN= 78.0: N= 3.00: Tp=  .02]
04069> #*****************************************************************************************
04070> # Pre9_1
04071> #*****************************************************************************************
04072> R1979:C00017-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04073>      CALIB NASHYD            1.0 01:Pre9_1         .44     .038 No_date    1:55   34.37 .409     .000
04074>        [CN= 71.0: N= 3.00: Tp=  .38]
04075> #*****************************************************************************************
04076> # Pre9_2
04077> #*****************************************************************************************
04078> R1979:C00018-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04079> *    CALIB NASHYD            1.0 01:Pre9_2         .01     .002 No_date    1:30   24.59 .293     .000
04080>        [CN= 59.0: N= 3.00: Tp=  .03]
04081> #*****************************************************************************************
04082> # Pre10_1
04083> #*****************************************************************************************
04084> R1979:C00019-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04085>      CALIB NASHYD            1.0 01:Pre10_1        .80     .078 No_date    1:48   34.37 .409     .000
04086>        [CN= 71.0: N= 3.00: Tp=  .29]
04087> #*****************************************************************************************
04088> # Prel1_1
04089> #*****************************************************************************************
04090> R1979:C00020-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04091>      CALIB NASHYD            1.0 01:Prel1_1        .07     .009 No_date    1:43   41.67 .496     .000
04092>        [CN= 78.0: N= 3.00: Tp=  .21]
04093> #*****************************************************************************************
04094> # Site 1
04095> #*****************************************************************************************
04096> R1979:C00021-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04097>      DESIGN STANDHYD         1.0 01:S1-B1          .42     .088 No_date    1:30   59.24 .705     .000
04098>        [XIMP=.34:TIMP=.44]
04099>        [SLP=1.00:DT= 1.00]
04100>        [LOSS= 1 : HORTONS]
04101> #*****************************************************************************************
04102> # Site 1 - Roof
04103> #*****************************************************************************************
04104> R1979:C00022-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04105>      DESIGN STANDHYD         1.0 01:S1-Roof        .06     .019 No_date    1:30   82.00 .976     .000
04106>        [XIMP=.99:TIMP=.99]
04107>        [SLP= .50:DT= 1.00]
04108>        [LOSS= 1 : HORTONS]
04109> R1979:C00023-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04110>      ROUTE RESERVOIR ->      1.0 01:S1-Roof        .06     .019 No_date    1:30   82.00 n/a      .000
04111>                  out <=      1.0 01:S1-Roof-Ou     .06     .004 No_date    2:01   82.00 n/a      .000
04112>              overflow <=     1.0 03:S1-Roof-Ov     .00     .000 No_date    0:00    .00 n/a      .000
04113>        (MxStoUsed=.3896E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs)
04114> R1979:C00024-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04115>      ADD HYD                 1.0 02:S1-B1          .42     .088 No_date    1:30   59.24 n/a      .000
04116>                        +     1.0 02:S1-Roof-Ou     .06     .004 No_date    2:01   82.00 n/a      .000
04117>                        +     1.0 02:S1-Roof-Ov     .00     .000 No_date    0:00    .00 n/a      .000
04118>                    SUM=      1.0 01:SITE1-IN       .48     .091 No_date    1:30   62.32 n/a      .000
04119> R1979:C00025-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04120>      ROUTE RESERVOIR ->      1.0 02:SITE1-IN       .48     .091 No_date    1:30   62.32 n/a      .000
04121>                  out <=      1.0 01:SITE1-Out      .48     .013 No_date    2:14   62.32 n/a      .000
04122>              overflow <=     1.0 03:SITE1-Over     .00     .000 No_date    0:00    .00 n/a      .000
04123>        (MxStoUsed=.2061E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs)
04124> #*****************************************************************************************
04125> # Site 2
04126> #*****************************************************************************************
04127> R1979:C00026-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04128>      DESIGN STANDHYD         1.0 01:S2-B3          .35     .073 No_date    1:30   58.02 .691     .000
04129>        [XIMP=.31:TIMP=.41]
04130>        [SLP=1.00:DT= 1.00]
04131>        [LOSS= 1 : HORTONS]
04132> #*****************************************************************************************
04133> # Site 2 - Roof
04134> #*****************************************************************************************
04135> R1979:C00027-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04136>      DESIGN STANDHYD         1.0 01:S2-Roof        .09     .027 No_date    1:30   82.00 .976     .000
04137>        [XIMP=.99:TIMP=.99]
04138>        [SLP= .50:DT= 1.00]
04139>        [LOSS= 1 : HORTONS]
04140> #*****************************************************************************************
04141> R1979:C00028-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04142>      ROUTE RESERVOIR ->      1.0 02:S2-Roof        .09     .027 No_date    1:30   82.00 n/a      .000
04143>                  out <=      1.0 01:S2-Roof-Ou     .09     .009 No_date    1:43   82.00 n/a      .000
04144>              overflow <=     1.0 03:S2-Roof-Ov     .00     .000 No_date    0:00    .00 n/a      .000
04145>        (MxStoUsed=.3654E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs)
04146> R1979:C00029-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04147>      ADD HYD                 1.0 02:S2-B3          .35     .073 No_date    1:30   58.02 n/a      .000
04148>                        +     1.0 02:S2-Roof-Ou     .09     .009 No_date    1:43   82.00 n/a      .000
04149>                        +     1.0 02:S2-Roof-Ov     .00     .000 No_date    0:00    .00 n/a      .000
04150>                    SUM=      1.0 01:SITE2-Out      .45     .082 No_date    1:31   63.01 n/a      .000
04151> R1979:C00030-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04152>      ROUTE RESERVOIR ->      1.0 02:SITE2-IN       .45     .082 No_date    1:31   63.01 n/a      .000
04153>                  out <=      1.0 01:SITE2-Out      .45     .015 No_date    2:17   63.01 n/a      .000
04154>              overflow <=     1.0 03:SITE2-Over     .00     .000 No_date    0:00    .00 n/a      .000
04155>        (MxStoUsed=.1922E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs)
04156> R1979:C00031-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04157>      ADD HYD                 1.0 02:SITE1-Out      .48     .013 No_date    2:14   62.32 n/a      .000
04158>                        +     1.0 02:SITE1-Over     .00     .000 No_date    0:00    .00 n/a      .000
04159>                    SUM=      1.0 01:Site1          .48     .013 No_date    2:14   62.32 n/a      .000
04160> R1979:C00032-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04161>      ADD HYD                 1.0 02:SITE2-Out      .45     .015 No_date    2:17   63.01 n/a      .000
04162>                        +     1.0 02:SITE2-Over     .00     .000 No_date    0:00    .00 n/a      .000
04163>                    SUM=      1.0 01:Site2          .45     .015 No_date    2:17   63.01 n/a      .000
04164> R1979:C00033-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04165>      ADD HYD                 1.0 02:EXT2           .28     .039 No_date    1:50   50.68 n/a      .000
04166>                        +     1.0 02:Pre2_1         .01     .002 No_date    1:30   35.32 n/a      .000
04167>                        +     1.0 02:Site1          .48     .013 No_date    2:14   62.32 n/a      .000
04168>                        +     1.0 02:Site2          .45     .015 No_date    2:17   63.01 n/a      .000
04169>                    SUM=      1.0 01:J1            1.23     .060 No_date    2:00   59.58 n/a      .000
04170> R1979:C00034-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04171>      ROUTE CHANNEL           ->      1.0 02:J1            1.23     .060 No_date    2:00   59.58 n/a      .000
04172>        [RDT= 1.00] out<-             1.0 01:R1            1.23     .059 No_date    2:04   59.58 n/a      .000
04173>         [L/S/n=  143./ .394/.035]
04174>         {Vmax=  .365:Dmax=  .155}
04175> R1979:C00035-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04176>      ADD HYD                 1.0 02:R1            1.23     .059 No_date    2:04   59.58 n/a      .000
04177>                        +     1.0 02:EXT3           .56     .067 No_date    1:50   44.05 n/a      .000
04178>                        +     1.0 02:EXT1          3.21     .240 No_date    2:16   44.05 n/a      .000
04179>                    SUM=      1.0 01:J2            5.00     .345 No_date    2:08   47.86 n/a      .000
04180> R1979:C00036-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04181>      ROUTE CHANNEL           ->      1.0 02:J2            5.00     .345 No_date    2:08   47.86 n/a      .000
04182>        [RDT= 1.00] out<-             1.0 01:R2            5.00     .344 No_date    2:10   47.86 n/a      .000
04183>         [L/S/n=   73./ .425/.035]
04184>         {Vmax=  .567:Dmax=  .319}
04185> R1979:C00037-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04186>      ADD HYD                 1.0 02:R2            5.00     .344 No_date    2:10   47.86 n/a      .000
04187>                        +     1.0 02:EXT4           .31     .038 No_date    1:48   42.84 n/a      .000
04188>                    SUM=      1.0 01:J3            5.31     .371 No_date    2:07   47.57 n/a      .000
04189> R1979:C00038-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04190>      ROUTE CHANNEL           ->      1.0 02:J3            5.31     .371 No_date    2:07   47.57 n/a      .000
04191>        [RDT= 1.00] out<-             1.0 01:R3            5.31     .369 No_date    2:10   47.57 n/a      .000
04192>         [L/S/n=   92./ .274/.035]
04193>         {Vmax=  .464:Dmax=  .329}
04194> R1979:C00039-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04195>      ADD HYD                 1.0 02:R3            5.31     .369 No_date    2:10   47.57 n/a      .000
04196>                        +     1.0 02:EXT5           .59     .054 No_date    2:01   39.44 n/a      .000
04197>                    SUM=      1.0 01:J4            5.90     .420 No_date    2:09   46.75 n/a      .000
04198> R1979:C00040-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04199>      ROUTE CHANNEL           ->      1.0 02:J4            5.90     .420 No_date    2:09   46.75 n/a      .000
04200>        [RDT= 1.00] out<-             1.0 01:R4            5.90     .404 No_date    2:15   46.75 n/a      .000
04201>         [L/S/n=  251./ .190/.035]
04202>         {Vmax=  .463:Dmax=  .380}
04203> R1979:C00041-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04204>      ADD HYD                 1.0 02:R4            5.90     .404 No_date    2:15   46.75 n/a      .000
04205>                        +     1.0 02:EXT6           .86     .088 No_date    2:06   50.68 n/a      .000
04206>                        +     1.0 02:EXT7           .47     .061 No_date    1:49   47.90 n/a      .000
04207>                    SUM=      1.0 01:J5            7.23     .530 No_date    2:11   47.29 n/a      .000
04208> R1979:C00042-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04209>      ROUTE CHANNEL           ->      1.0 02:J5            7.23     .530 No_date    2:11   47.29 n/a      .000
04210>        [RDT= 1.00] out<-             1.0 01:R5            7.23     .525 No_date    2:15   47.29 n/a      .000
04211>         [L/S/n=  237./ .644/.035]
04212>         {Vmax=  .762:Dmax=  .351}
04213> R1979:C00043-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04214>      ADD HYD                 1.0 02:Prel0_1        .80     .078 No_date    1:48   34.37 n/a      .000
04215>                        +     1.0 02:Pre9_2         .01     .002 No_date    1:30   24.59 n/a      .000
04216>                        +     1.0 02:Pre2_2         .00     .000 No_date    1:30   41.63 n/a      .000
04217>                    SUM=      1.0 01:Pre            .81     .079 No_date    1:48   34.22 n/a      .000
04218> R1979:C00044-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04219>      ROUTE CHANNEL           ->      1.0 02:Pre            .81     .079 No_date    1:48   34.22 n/a      .000
04220>        [RDT= 1.00] out<-             1.0 01:R6            .81     .078 No_date    1:51   34.22 n/a      .000
04221>         [L/S/n=   77./ .776/.035]
04222>         {Vmax=  .492:Dmax=  .058}
04223> R1979:C00045-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04224>      ROUTE CHANNEL           ->      1.0 02:Pre9_1         .44     .038 No_date    1:55   34.37 n/a      .000
04225>        [RDT= 1.00] out<-             1.0 01:R7            .44     .037 No_date    1:59   34.37 n/a      .000
04226>         [L/S/n=  159./1.576/.035]
04227>         {Vmax=  .797:Dmax=  .011}
04228> R1979:C00046-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04229>      ADD HYD                 1.0 02:R6             .81     .078 No_date    1:51   34.62 n/a      .000
04230>                        +     1.0 02:EXT10          .20     .017 No_date    1:59   34.36 n/a      .000
04231>                    SUM=      1.0 01:J6            1.02     .094 No_date    1:52   34.57 n/a      .000
04232> R1979:C00047-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04233>      ROUTE CHANNEL           ->      1.0 02:J6            1.02     .094 No_date    1:52   34.57 n/a      .000
04234>        [RDT= 1.00] out<-             1.0 01:R8            1.02     .093 No_date    1:55   34.57 n/a      .000
04235>         [L/S/n=   79./ .522/.035]
04236>         {Vmax=  .423:Dmax=  .069}
04237> R1979:C00048-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04238>      ADD HYD                 1.0 02:R8            1.02     .093 No_date    1:55   34.79 n/a      .000
04239>                        +     1.0 02:R7             .44     .040 No_date    4:49   34.91 n/a      .000
04240>                    SUM=      1.0 01:J7            1.46     .130 No_date    1:56   34.82 n/a      .000
04241> R1979:C00049-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04242>      ROUTE CHANNEL           ->      1.0 02:J7            1.46     .130 No_date    1:56   34.82 n/a      .000
04243>        [RDT= 1.00] out<-             1.0 01:R9            1.46     .130 No_date    1:57   34.82 n/a      .000
04244>         [L/S/n=   29./ .887/.035]
04245>         {Vmax=  .543:Dmax=  .088}
04246> R1979:C00050-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04247>      ADD HYD                 1.0 02:EXT9          3.57     .311 No_date    2:03   39.44 n/a      .000
04248>                        +     1.0 02:R9            1.46     .130 No_date    1:57   34.96 n/a      .000
04249>                        +     1.0 02:EXT8           .83     .085 No_date    1:58   42.85 n/a      .000
04250>                        +     1.0 02:R5            7.23     .525 No_date    2:15   47.29 n/a      .000
04251>                    SUM=      1.0 01:J8           13.09    1.018 No_date    2:07   43.50 n/a      .000
04252> R1979:C00051-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04253>      ROUTE PIPE      ->      1.0 02:J8           13.09    1.018 No_date    2:07   43.50 n/a      .000
04254> *    [RDT= 1.00] out<-             1.0 01:Outlet       13.09    1.017 No_date    2:07   43.50 n/a      .000
04255>         [L/S/n=    8./ .010/.013]
04256>         {Vmax=  .499:Dmax= 1.411}
04257>         [Din=  .53:Dused= 1.72]
04258> ###############################################################################
04259> # STORMS
04260> ###############################################################################
04261>   ** END OF RUN : 1987
04262>
04263> *****************************************************************************************
04264>
04265>
04266>
04267>
04268>
04269>  RUN#:COMMAND#
04270> R1988:C00001-------------------------------------------------------------------------------
04271>       START
04272>        [TZERO =    .00 hrs on        0]
04273>        [METOUT=   2    (1=imperial, 2=metric output)]
04274>        [NSTORM=   1 ]
04275>        [NRUN  = 1988 ]
04276> #*****************************************************************************************
04277> #  SWMHYMO  / INPUT DATA FILE
04278> #*****************************************************************************************
04279> #  Project Name  : [5923 Ottawa St]
04280> #  Project Number: [P2710(e01)]
04281> #  Date          : [2025 April 28]
04282> #  Modeller      : [MM]
04283> #  Company       : JFSA Canada Inc.
04284> #  License #     : 2549237
04285> #*****************************************************************************************
04286> # Model developed to simulate runoff from subcatchments under post development conditions
04287> #*****************************************************************************************
04288> R1988:C00002-------------------------------------------------------------------------------
04289>       READ STORM
04290>        Filename = STORM.001
04291>        Comment  = August 4th, 1988 Storm (5H+) - Ottawa International Airport step 5
04292>        [SDT= 5.00:SDUR=   5.58:PTOT=  80.59]
04293> #*****************************************************************************************
04294> R1988:C00003-------------------------------------------------------------------------------
04295>       DEFAULT VALUES
04296>        Filename = C:\Temp\20250910-PostDev\Ottawa.val
04297>        ICASEdv  = 1 (read and print data)
04298>        FileTitle= File comment: [Parameters for City of Ottawa Projects]
04299>                   THE FOLLOWING PARAMETERS ARE USED IN THE DESIGN STANDHYD COM
04300>        Horton's infiltration equation parameters:
04301>        [Fo= 76.20 mm/hr] [Fc=13.20 mm/hr] [DCAY= 4.14 /hr] [F=  .00 mm]
04302>        Parameters for PERVIOUS surfaces in STANDHYD:
04303>        [IAperv=   4.67 mm] [LGP=40.00 m] [MNP= .250]
04304>        Parameters for IMPERVIOUS surfaces in STANDHYD:
04305>        [IAimp=   1.57 mm] [CLI= 1.50]   [MNI= .013]
04306>        Parameters used in NASHYD:
04307>        [Ia=   4.67 mm] [N= 3.00]
04308>        Average monthly Pan Evaporation data in    (mm)
04309>     JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
04310>    .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
04311>        Average monthly Potential Evapotranspiration in    (mm)
04312>     JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
04313>    .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
04314> #*****************************************************************************************
04315> # EXT1
04316> #*****************************************************************************************
04317> R1988:C00004-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04318>      CALIB NASHYD            1.0 01:EXT1           3.21     .197 No_date    2:30   41.34 .513     .000
04319>        [CN= 80.0: N= 3.00: Tp=  .72]
04320> #*****************************************************************************************
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04321> # EXT2
04322> #*************************************************************************************
04323> R1988:C00005-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
04324>      CALIB NASHYD            1.0 01:EXT2          .28     .035 No_date    2:11   47.74 .592     .000
04325>        [CN= 85.0: N= 3.00: Tp=  .33]
04326> #*************************************************************************************
04327> # EXT3
04328> #*************************************************************************************
04329> R1988:C00006-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
04330>      CALIB NASHYD            1.0 01:EXT3          .56     .061 No_date    2:11   41.34 .513     .000
04331>        [CN= 80.0: N= 3.00: Tp=  .32]
04332> #*************************************************************************************
04333> # EXT4
04334> #*************************************************************************************
04335> R1988:C00007-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
04336>      CALIB NASHYD            1.0 01:EXT4          .31     .035 No_date    2:10   40.18 .499     .000
04337>        [CN= 79.0: N= 3.00: Tp=  .29]
04338> #*************************************************************************************
04339> # EXT5
04340> #*************************************************************************************
04341> R1988:C00008-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
04342>      CALIB NASHYD            1.0 01:EXT5          .59     .046 No_date    2:17   36.92 .458     .000
04343>        [CN= 76.0: N= 3.00: Tp=  .45]
04344> #*************************************************************************************
04345> # EXT6
04346> #*************************************************************************************
04347> R1988:C00009-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
04348>      CALIB NASHYD            1.0 01:EXT6          .86     .074 No_date    2:21   47.74 .592     .000
04349>        [CN= 85.0: N= 3.00: Tp=  .56]
04350> #*************************************************************************************
04351> # EXT7
04352> #*************************************************************************************
04353> R1988:C00010-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
04354>      CALIB NASHYD            1.0 01:EXT7          .47     .055 No_date    2:11   45.05 .559     .000
04355>        [CN= 83.0: N= 3.00: Tp=  .32]
04356> #*************************************************************************************
04357> # EXT8
04358> #*************************************************************************************
04359> R1988:C00011-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
04360>      CALIB NASHYD            1.0 01:EXT8          .83     .074 No_date    2:15   40.18 .499     .000
04361>        [CN= 79.0: N= 3.00: Tp=  .42]
04362> #*************************************************************************************
04363> # EXT9
04364> #*************************************************************************************
04365> R1988:C00012-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
04366>      CALIB NASHYD            1.0 01:EXT9          3.57     .266 No_date    2:18   36.92 .458     .000
04367>        [CN= 76.0: N= 3.00: Tp=  .48]
04368> #*************************************************************************************
04369> # EXT9a
04370> #*************************************************************************************
04371> R1988:C00013-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
04372>      CALIB NASHYD            1.0 01:EXT9a          .01     .003 No_date    2:00   39.05 .485     .000
04373>        [CN= 78.0: N= 3.00: Tp=  .04]
04374> #*************************************************************************************
04375> # EXT10
04376> #*************************************************************************************
04377> R1988:C00014-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
04378>      CALIB NASHYD            1.0 01:EXT10          .20     .014 No_date    2:16   32.08 .398     .000
04379>        [CN= 71.0: N= 3.00: Tp=  .42]
04380> #*************************************************************************************
04381> # Pre2_1
04382> #*************************************************************************************
04383> R1988:C00015-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
04384> *    CALIB NASHYD            1.0 01:Pre2_1          .01     .003 No_date    2:00   32.99 .409     .000
04385>        [CN= 72.0: N= 3.00: Tp=  .03]
04386> #*************************************************************************************
04387> # Pre2_2
04388> #*************************************************************************************
04389> R1988:C00016-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
04390> *    CALIB NASHYD            1.0 01:Pre2_2          .00     .001 No_date    2:00   39.04 .484     .000
04391>        [CN= 78.0: N= 3.00: Tp=  .02]
04392> #*************************************************************************************
04393> # Pre9_1
04394> #*************************************************************************************
04395> R1988:C00017-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
04396>      CALIB NASHYD            1.0 01:Pre9_1          .44     .033 No_date    2:14   32.08 .398     .000
04397>        [CN= 71.0: N= 3.00: Tp=  .38]
04398> #*************************************************************************************
04399> # Pre9_2
04400> #*************************************************************************************
04401> R1988:C00018-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
04402> *    CALIB NASHYD            1.0 01:Pre9_2          .01     .003 No_date    2:00   22.83 .283     .000
04403>        [CN= 59.0: N= 3.00: Tp=  .03]
04404> #*************************************************************************************
04405> # Pre10_1
04406> #*************************************************************************************
04407> R1988:C00019-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
04408>      CALIB NASHYD            1.0 01:Pre10_1          .80     .072 No_date    2:10   32.08 .398     .000
04409>        [CN= 71.0: N= 3.00: Tp=  .29]
04410> #*************************************************************************************
04411> # Pre11_1
04412> #*************************************************************************************
04413> R1988:C00020-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
04414>      CALIB NASHYD            1.0 01:Pre11_1          .07     .009 No_date    2:06   39.06 .485     .000
04415>        [CN= 78.0: N= 3.00: Tp=  .21]
04416> #*************************************************************************************
04417> # Site 1
04418> #*************************************************************************************
04419> R1988:C00021-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
04420>      DESIGN STANDHYD         1.0 01:S1-B1          .42     .104 No_date    2:00   54.85 .681     .000
04421>        [XIMP=.34:TIMP=.44]
04422>        [SLP=1.00:DT= 1.00]
04423>        [LOSS= 1 : HORTONS]
04424> #*************************************************************************************
04425> # Site 1 - Roof
04426> #*************************************************************************************
04427> R1988:C00022-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
04428>      DESIGN STANDHYD         1.0 01:S1-Roof          .06     .028 No_date    2:00   78.59 .975     .000
04429>        [XIMP=.99:TIMP=.99]
04430>        [SLP= .50:DT= 1.00]
04431>        [LOSS= 1 : HORTONS]
04432> R1988:C00023-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
04433>      ROUTE RESERVOIR ->     1.0 02:S1-Roof          .06     .028 No_date    2:00   78.59  n/a     .000
04434>                       out <=    1.0 01:S1-Roof-Ou      .06     .004 No_date    2:03   78.59  n/a     .000
04435>                  overflow <=    1.0 01:S1-Roof-Ov      .00     .000 No_date    0:00    .00  n/a     .000
04436>       (MxStoUsed=.3573E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs)
04437> R1988:C00024-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
04438>      ADD HYD                 1.0 02:S1-B1          .42     .104 No_date    2:00   54.85  n/a     .000
04439>                       +    1.0 02:S1-Roof-Ou      .06     .004 No_date    2:03   78.59  n/a     .000
04440>                       +    1.0 02:S1-Roof-Ov      .00     .000 No_date    0:00    .00  n/a     .000
04441>                     SUM=   1.0 01:SITE1-IN        .48     .108 No_date    2:00   58.06  n/a     .000
04442> R1988:C00025-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
04443>      ROUTE RESERVOIR ->     1.0 02:SITE1-IN         .48     .108 No_date    2:00   58.06  n/a     .000
04444>                       out <=    1.0 01:SITE1-Out       .48     .009 No_date    2:30   58.06  n/a     .000
04445>                  overflow <=    1.0 01:SITE1-Over      .00     .000 No_date    0:00    .00  n/a     .000
04446>      (MxStoUsed=.1725E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs)
04447> #*************************************************************************************
04448> # Site 2
04449> #*************************************************************************************
04450> R1988:C00026-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
04451>      DESIGN STANDHYD         1.0 01:S2-B3          .35     .088 No_date    2:00   53.63 .665     .000
04452>        [XIMP=.31:TIMP=.41]
04453>        [SLP=1.00:DT= 1.00]
04454>        [LOSS= 1 : HORTONS]
04455> #*************************************************************************************
04456> # Site 2 - Roof
04457> #*************************************************************************************
04458> R1988:C00027-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
04459>      DESIGN STANDHYD         1.0 01:S2-Roof          .09     .040 No_date    2:00   78.59 .975     .000
04460>        [XIMP=.99:TIMP=.99]
04461>        [SLP= .50:DT= 1.00]
04462>        [LOSS= 1 : HORTONS]
04463> #*************************************************************************************
04464> R1988:C00028-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
04465>      ROUTE RESERVOIR ->     1.0 02:S2-Roof          .09     .040 No_date    2:00   78.59  n/a     .000
04466>                       out <=    1.0 01:S2-Roof-Ou      .09     .009 No_date    2:02   78.61  n/a     .000
04467>                  overflow <=    1.0 01:S2-Roof-Ov      .00     .000 No_date    0:00    .00  n/a     .000
04468>       (MxStoUsed=.3220E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs)
04469> R1988:C00029-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
04470>      ADD HYD                 1.0 02:S2-B3          .35     .088 No_date    2:00   53.63  n/a     .000
04471>                       +    1.0 02:S2-Roof-Ou      .09     .009 No_date    2:02   78.61  n/a     .000
04472>                       +    1.0 02:S2-Roof-Ov      .00     .000 No_date    0:00    .00  n/a     .000
04473>                     SUM=   1.0 01:SITE2-IN        .45     .096 No_date    2:00   58.83  n/a     .000
04474> R1988:C00030-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
04475>      ROUTE RESERVOIR ->     1.0 02:SITE2-IN         .45     .096 No_date    2:00   58.83  n/a     .000
04476>                       out <=    1.0 01:SITE2-Out       .45     .010 No_date    2:34   58.83  n/a     .000
04477>                  overflow <=    1.0 01:SITE2-Over      .00     .000 No_date    0:00    .00  n/a     .000
04478>      (MxStoUsed=.1650E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs)
04479> R1988:C00031-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
04480>      ADD HYD                 1.0 02:SITE1-Out        .48     .009 No_date    2:30   58.06  n/a     .000
04481>                       +    1.0 02:SITE1-Over      .00     .000 No_date    0:00    .00  n/a     .000
04482>                     SUM=   1.0 01:Site1           .48     .009 No_date    2:30   58.06  n/a     .000
04483> R1988:C00032-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
04484>      ADD HYD                 1.0 02:SITE2-Out        .45     .010 No_date    2:34   58.83  n/a     .000
04485>                       +    1.0 02:SITE2-Over      .00     .000 No_date    0:00    .00  n/a     .000
04486>                     SUM=   1.0 01:Site2           .45     .010 No_date    2:34   58.83  n/a     .000
04487> R1988:C00033-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
04488>      ADD HYD                 1.0 02:EXT2           .28     .035 No_date    2:11   47.74  n/a     .000
04489>                       +    1.0 02:Pre2_1          .01     .003 No_date    2:00   32.99  n/a     .000
04490>                       +    1.0 02:Site1           .48     .009 No_date    2:30   58.06  n/a     .000
04491>                       +    1.0 02:Site2           .45     .010 No_date    2:34   58.83  n/a     .000
04492>                     SUM=   1.0 01:J1            1.23     .053 No_date    2:11   55.67  n/a     .000
04493> R1988:C00034-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
04494>      ROUTE CHANNEL   ->     1.0 02:J1            1.23     .053 No_date    2:11   55.67  n/a     .000
04495>        [RD= 1.00] out<-     1.0 01:R1            1.23     .051 No_date    2:15   55.67  n/a     .000
04496>        [L/S/n=  143./ .394/.035]
04497>        {Vmax=  .354:Dmax=  .147}
04498> R1988:C00035-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
04499>      ADD HYD                 1.0 02:R1            1.23     .051 No_date    2:15   55.67  n/a     .000
04500>                       +    1.0 02:EXT3           .56     .061 No_date    2:11   41.34  n/a     .000
04501>                       +    1.0 02:EXT1          3.21     .197 No_date    2:30   41.34  n/a     .000
04502>                     SUM=   1.0 01:J2            5.00     .287 No_date    2:20   44.86  n/a     .000
04503> R1988:C00036-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
04504>      ROUTE CHANNEL   ->     1.0 02:J2            5.00     .287 No_date    2:20   44.86  n/a     .000
04505>        [RD= 1.00] out<-     1.0 01:R2            5.00     .286 No_date    2:22   44.86  n/a     .000
04506>        [L/S/n=   73./ .425/.035]
04507>        {Vmax=  .542:Dmax=  .297}
04508> R1988:C00037-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
04509>      ADD HYD                 1.0 02:R2            5.00     .286 No_date    2:22   44.86  n/a     .000
04510>                       +    1.0 02:EXT4           .31     .035 No_date    2:10   40.18  n/a     .000
04511>                     SUM=   1.0 01:J3            5.31     .313 No_date    2:20   44.58  n/a     .000
04512> R1988:C00038-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
04513>      ROUTE CHANNEL   ->     1.0 02:J3            5.31     .313 No_date    2:20   44.58  n/a     .000
04514>        [RD= 1.00] out<-     1.0 01:R3            5.31     .309 No_date    2:22   44.58  n/a     .000
04515>        [L/S/n=   92./ .274/.035]
04516>        {Vmax=  .445:Dmax=  .308}
04517> R1988:C00039-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
04518>      ADD HYD                 1.0 02:R3            5.31     .309 No_date    2:22   44.58  n/a     .000
04519>                       +    1.0 02:EXT5           .59     .046 No_date    2:17   36.92  n/a     .000
04520>                     SUM=   1.0 01:J4            5.90     .354 No_date    2:21   43.81  n/a     .000
04521> R1988:C00040-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
04522>      ROUTE CHANNEL   ->     1.0 02:J4            5.90     .354 No_date    2:21   43.81  n/a     .000
04523>        [RD= 1.00] out<-     1.0 01:R4            5.90     .332 No_date    2:29   43.81  n/a     .000
04524>        [L/S/n=  251./ .190/.035]
04525>        {Vmax=  .441:Dmax=  .352}
04526> R1988:C00041-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
04527>      ADD HYD                 1.0 02:R4            5.90     .332 No_date    2:29   43.81  n/a     .000
04528>                       +    1.0 02:EXT6           .86     .074 No_date    2:21   47.74  n/a     .000
04529>                       +    1.0 02:EXT7           .47     .055 No_date    2:11   45.05  n/a     .000
04530>                     SUM=   1.0 01:J5            7.23     .440 No_date    2:25   44.36  n/a     .000
04531> R1988:C00042-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
04532>      ROUTE CHANNEL   ->     1.0 02:J5            7.23     .440 No_date    2:25   44.36  n/a     .000
04533>        [RD= 1.00] out<-     1.0 01:R5            7.23     .433 No_date    2:30   44.36  n/a     .000
04534>        [L/S/n=  237./ .644/.035]
04535>        {Vmax=  .722:Dmax=  .326}
04536> R1988:C00043-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
04537>      ADD HYD                 1.0 02:Pre10_1          .80     .072 No_date    2:10   32.08  n/a     .000
04538>                       +    1.0 02:Pre9_2           .01     .003 No_date    2:00   22.83  n/a     .000
04539>                       +    1.0 02:Pre2_2           .00     .001 No_date    2:00   39.04  n/a     .000
04540>                     SUM=   1.0 01:Pre            .81     .072 No_date    2:10   31.94  n/a     .000
04541> R1988:C00044-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
04542>      ROUTE CHANNEL   ->     1.0 02:Pre           .81     .072 No_date    2:10   31.94  n/a     .000
04543>        [RD= 1.00] out<-     1.0 01:R6            .81     .071 No_date    2:12   31.94  n/a     .000
04544>        [L/S/n=   77./ .776/.035]
04545>        {Vmax=  .492:Dmax=  .052}
04546> R1988:C00045-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
04547>      ROUTE CHANNEL   ->     1.0 02:Pre9_1          .44     .033 No_date    2:14   32.08  n/a     .000
04548>        [RD= 1.00] out<-     1.0 01:R7            .44     .033 No_date    2:17   32.08  n/a     .000
04549>        [L/S/n=  159./1.576/.035]
04550>        {Vmax=  .797:Dmax=  .010}
04551> R1988:C00046-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
04552>      ADD HYD                 1.0 02:R6            .81     .071 No_date    2:12   32.17  n/a     .000
04553>                       +    1.0 02:EXT10          .20     .014 No_date    2:16   32.08  n/a     .000
04554>                     SUM=   1.0 01:J6            1.02     .085 No_date    2:13   32.15  n/a     .000
04555> R1988:C00047-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
04556>      ROUTE CHANNEL   ->     1.0 02:J6            1.02     .085 No_date    2:13   32.15  n/a     .000
04557>        [RD= 1.00] out<-     1.0 01:R8            1.02     .083 No_date    2:16   32.15  n/a     .000
04558>        [L/S/n=   79./ .522/.035]
04559>        {Vmax=  .423:Dmax=  .062}
04560> R1988:C00048-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
04561>      ADD HYD                 1.0 02:R8            1.02     .083 No_date    2:16   32.29  n/a     .000
04562>                       +    1.0 02:R7            .44     .033 No_date    2:17   32.42  n/a     .000
04563>                     SUM=   1.0 01:J7            1.46     .115 No_date    2:16   32.33  n/a     .000
04564> R1988:C00049-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
04565>      ROUTE CHANNEL   ->     1.0 02:J7            1.46     .115 No_date    2:16   32.33  n/a     .000
04566>        [RD= 1.00] out<-     1.0 01:R9            1.46     .115 No_date    2:17   32.33  n/a     .000
04567>        [L/S/n=   29./ .887/.035]
04568>        {Vmax=  .543:Dmax=  .078}
04569> R1988:C00050-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
04570>      ADD HYD                 1.0 02:EXT9          3.57     .266 No_date    2:18   36.92  n/a     .000
04571>                       +    1.0 02:R9            1.46     .115 No_date    2:17   32.43  n/a     .000
04572>                       +    1.0 02:EXT8           .83     .074 No_date    2:15   40.18  n/a     .000
04573>                       +    1.0 02:R5            7.23     .433 No_date    2:30   44.36  n/a     .000
04574>                     SUM=   1.0 01:J8           13.09     .857 No_date    2:22   40.74  n/a     .000
04575> R1988:C00051-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
04576>      ROUTE PIPE      ->     1.0 02:J8           13.09     .857 No_date    2:22   40.74  n/a     .000
04577> *    [RD= 1.00] out<-     1.0 01:Outlet        13.09     .856 No_date    2:23   40.74  n/a     .000
04578>        [L/S/n=    8./ .010/.013]
04579>        {Vmax=  .478:Dmax= 1.323}
04580>        [Din=  .53:Dus=0- 1.61]
04581> ##############################################################################
04582> # STORMS
04583> ##############################################################################
04584>  ** END OF RUN : 1995
04585>
04586> ************************************************************************************
04587>
04588>
04589>
04590>
04591>
04592>  RUN#:COMMAND#
04593> R1996:C00001-----------------------------------------------------------------------
04594>    START
04595>      [TZERO =    .00 hrs on      0]
04596>      [METOUT=   2   (1=imperial, 2=metric output)]
04597>      [NSTORM=   1 ]
04598>      [NRUN  = 1996 ]
04599> #************************************************************************************
04600> #  SWMHYMO  / INPUT DATA FILE
04601> #************************************************************************************
04602> #  Project Name  : [5923 Ottawa St]
04603> #  Project Number: [P2710(e01)]
04604> #  Date          : [2025 April 28]
04605> #  Modeller      : [MM]
04606> #  Company       : JFSA Canada Inc.
04607> #  License #     : 2549237
04608> #************************************************************************************
04609> # Model developed to simulate runoff from subcatchments under post development conditions
04610> #************************************************************************************
04611> R1996:C00002-----------------------------------------------------------------------
04612>    READ STORM
04613>      Filename = STORM.001
04614>      Comment  = August 8th, 1996 Storm (5H) - Ottawa International Airport step 5
04615>      [Ptot= 5.00:SDUR=   5.75:PTOT=  73.90]
04616> #************************************************************************************
04617> R1996:C00003-----------------------------------------------------------------------
04618>    DEFAULT VALUES
04619>      Filename = C:\Temp\20250910-PostDev\Ottawa.val
04620>      ICASEdv  = 1 (read and print data)
04621>      FileTitle= File comment: [Parameters for City of Ottawa Projects]
04622>                 THE FOLLOWING PARAMETERS ARE USED IN THE DESIGN STANDHYD COM
04623>      Horton's infiltration equation parameters:
04624>      [Fo= 76.20 mm/hr] [Fc=13.20 mm/hr] [DCAY= 4.14 /hr] [F=  .00 mm]
04625>      Parameters for PERVIOUS surfaces in STANDHYD:
04626>      [IAper=   4.67 mm] [LGP=40.00 m] [MNP= .250]
04627>      Parameters for IMPERVIOUS surfaces in STANDHYD:
04628>      [IAImp=   1.57 mm] [CLI= 1.50]   [MMI= .013]
04629>      Parameters used in NASHYD:
04630>      [Ia=   4.67 mm] [N= 3.00]
04631>      Average monthly Pan Evaporation data in     (mm)
04632>    JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
04633>  .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
04634>      Average monthly Potential Evapotranspiration in     (mm)
04635>    JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
04636>  .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
04637> #************************************************************************************
04638> # EXT1
04639> #************************************************************************************
04640> R1996:C00004-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
04641>      CALIB NASHYD            1.0 01:EXT1          3.21     .134 No_date    3:49   36.11 .489     .000
04642>        [CN= 80.0: N= 3.00: Tp=  .72]
04643> #************************************************************************************
04644> # EXT2
04645> #************************************************************************************
04646> R1996:C00005-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
04647>      CALIB NASHYD            1.0 01:EXT2          .28     .023 No_date    3:26   42.02 .569     .000
04648>        [CN= 85.0: N= 3.00: Tp=  .33]
04649> #************************************************************************************
04650> # EXT3
04651> #************************************************************************************
04652> R1996:C00006-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
04653>      CALIB NASHYD            1.0 01:EXT3          .56     .041 No_date    3:26   36.11 .489     .000
04654>        [CN= 80.0: N= 3.00: Tp=  .32]
04655> #************************************************************************************
04656> # EXT4
04657> #************************************************************************************
04658> R1996:C00007-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
04659>      CALIB NASHYD            1.0 01:EXT4          .31     .023 No_date    3:24   35.05 .474     .000
04660>        [CN= 79.0: N= 3.00: Tp=  .29]
04661> #************************************************************************************
04662> # EXT5
04663> #************************************************************************************
04664> R1996:C00008-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
04665>      CALIB NASHYD            1.0 01:EXT5          .59     .031 No_date    3:34   32.07 .434     .000
04666>        [CN= 76.0: N= 3.00: Tp=  .45]
04667> #************************************************************************************
04668> # EXT6
04669> #************************************************************************************
04670> R1996:C00009-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
04671>      CALIB NASHYD            1.0 01:EXT6          .86     .048 No_date    3:40   42.02 .569     .000
04672>        [CN= 85.0: N= 3.00: Tp=  .56]
04673> #************************************************************************************
04674> # EXT7
04675> #************************************************************************************
04676> R1996:C00010-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm-----RVmm-R.C.---DWFcms
04677>      CALIB NASHYD            1.0 01:EXT7          .47     .037 No_date    3:26   39.53 .535     .000
04678>        [CN= 83.0: N= 3.00: Tp=  .32]
04679> #************************************************************************************
04680> # EXT8
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04681> #*************************************************************************************************
04682> R1996:C00011-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04683>      CALIB NASHYD            1.0 01:EXT8           .83     .049 No_date    3:32   35.05 .474    .000
04684>        [CN= 79.0: N= 3.00: Tp=  .42]
04685> #*************************************************************************************************
04686> # EXT9
04687> #*************************************************************************************************
04688> R1996:C00012-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04689>      CALIB NASHYD            1.0 01:EXT9          3.57     .177 No_date    3:36   32.07 .434    .000
04690>        [CN= 76.0: N= 3.00: Tp=  .48]
04691> #*************************************************************************************************
04692> # EXT9a
04693> #*************************************************************************************************
04694> R1996:C00013-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04695>      CALIB NASHYD            1.0 01:EXT9a          .01     .001 No_date    1:26   34.01 .460    .000
04696>        [CN= 78.0: N= 3.00: Tp=  .04]
04697> #*************************************************************************************************
04698> # EXT10
04699> #*************************************************************************************************
04700> R1996:C00014-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04701>      CALIB NASHYD            1.0 01:EXT10          .20     .010 No_date    3:32   27.70 .375    .000
04702>        [CN= 71.0: N= 3.00: Tp=  .42]
04703> #*************************************************************************************************
04704> # Pre2_1
04705> #*************************************************************************************************
04706> R1996:C00015-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04707> *  CALIB NASHYD            1.0 01:Pre2_1         .01     .001 No_date    1:26   28.52 .386    .000
04708>        [CN= 72.0: N= 3.00: Tp=  .03]
04709> #*************************************************************************************************
04710> # Pre2_2
04711> #*************************************************************************************************
04712> R1996:C00016-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04713> *  CALIB NASHYD            1.0 01:Pre2_2         .00     .000 No_date    1:25   34.01 .460    .000
04714>        [CN= 78.0: N= 3.00: Tp=  .02]
04715> #*************************************************************************************************
04716> # Pre9_1
04717> #*************************************************************************************************
04718> R1996:C00017-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04719>      CALIB NASHYD            1.0 01:Pre9_1         .44     .022 No_date    3:30   27.71 .375    .000
04720>        [CN= 71.0: N= 3.00: Tp=  .38]
04721> #*************************************************************************************************
04722> # Pre9_2
04723> #*************************************************************************************************
04724> R1996:C00018-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04725> *  CALIB NASHYD            1.0 01:Pre9_2         .01     .001 No_date    1:26   19.50 .264    .000
04726>        [CN= 59.0: N= 3.00: Tp=  .03]
04727> #*************************************************************************************************
04728> # Pre10_1
04729> #*************************************************************************************************
04730> R1996:C00019-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04731>      CALIB NASHYD            1.0 01:Pre10_1        .80     .049 No_date    3:24   27.71 .375    .000
04732>        [CN= 71.0: N= 3.00: Tp=  .29]
04733> #*************************************************************************************************
04734> # Pre11_1
04735> #*************************************************************************************************
04736> R1996:C00020-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04737>      CALIB NASHYD            1.0 01:Pre11_1        .07     .006 No_date    3:19   34.01 .460    .000
04738>        [CN= 78.0: N= 3.00: Tp=  .21]
04739> #*************************************************************************************************
04740> # Site 1
04741> #*************************************************************************************************
04742> R1996:C00021-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04743>      DESIGN STANDHYD         1.0 01:S1-B1          .42     .069 No_date    1:30   49.80 .674    .000
04744>        [XIMP=.34:TIMP=.44]
04745>        [SLP=1.00:DT= 1.00]
04746>        [LOSS= 1 : HORTONS]
04747> #*************************************************************************************************
04748> # Site 1 - Roof
04749> #*************************************************************************************************
04750> R1996:C00022-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04751>      DESIGN STANDHYD         1.0 01:S1-Roof        .06     .022 No_date    1:25   71.93 .973    .000
04752>        [XIMP=.99:TIMP=.99]
04753>        [SLP= .50:DT= 1.00]
04754>        [LOSS= 1 : HORTONS]
04755> R1996:C00023-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04756>      ROUTE RESERVOIR ->    1.0 02:S1-Roof        .06     .022 No_date    1:25   71.93  n/a     .000
04757>                        out <=   1.0 01:S1-Roof-Ou    .06     .003 No_date    3:21   71.93  n/a     .000
04758>                overflow <=   1.0 03:S1-Roof-Ov    .00     .000 No_date    0:00     .00  n/a     .000
04759>        (MxStoUsed=.2686E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=     0, TotDurOvf=    0.hrs)
04760> R1996:C00024-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04761>      ADD HYD                 1.0 02:S1-B1          .42     .069 No_date    1:30   49.80  n/a     .000
04762>                          +   1.0 02:S1-Roof-Ou    .06     .003 No_date    3:21   71.93  n/a     .000
04763>                          +   1.0 02:S1-Roof-Ov    .00     .000 No_date    0:00     .00  n/a     .000
04764>                      SUM=    1.0 01:S1TE1-IN       .48     .071 No_date    1:30   52.80  n/a     .000
04765> R1996:C00025-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04766>      ROUTE RESERVOIR ->    1.0 02:S1TE1-IN       .48     .071 No_date    1:30   52.80  n/a     .000
04767>                        out <=   1.0 01:S1TE1-Out     .48     .008 No_date    3:42   52.80  n/a     .000
04768>                overflow <=   1.0 03:S1TE1-Over    .00     .000 No_date    0:00     .00  n/a     .000
04769>        (MxStoUsed=.1461E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=     0, TotDurOvf=    0.hrs)
04770> #*************************************************************************************************
04771> # Site 2
04772> #*************************************************************************************************
04773> R1996:C00026-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04774>      DESIGN STANDHYD         1.0 01:S2-B3          .35     .057 No_date    1:30   48.67 .659    .000
04775>        [XIMP=.31:TIMP=.41]
04776>        [SLP=1.00:DT= 1.00]
04777>        [LOSS= 1 : HORTONS]
04778> #*************************************************************************************************
04779> # Site 2 - Roof
04780> #*************************************************************************************************
04781> R1996:C00027-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04782>      DESIGN STANDHYD         1.0 01:S2-Roof        .09     .031 No_date    1:25   71.93 .973    .000
04783>        [XIMP=.99:TIMP=.99]
04784>        [SLP= .50:DT= 1.00]
04785>        [LOSS= 1 : HORTONS]
04786> #*************************************************************************************************
04787> R1996:C00028-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04788>      ROUTE RESERVOIR ->    1.0 02:S2-Roof        .09     .031 No_date    1:25   71.93  n/a     .000
04789>                        out <=   1.0 01:S2-Roof-Ou    .09     .007 No_date    1:32   71.95  n/a     .000
04790>                overflow <=   1.0 03:S2-Roof-Ov    .00     .000 No_date    0:00     .00  n/a     .000
04791>        (MxStoUsed=.2026E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=     0, TotDurOvf=    0.hrs)
04792> R1996:C00029-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04793>      ADD HYD                 1.0 02:S2-B3          .35     .057 No_date    1:30   48.67  n/a     .000
04794>                          +   1.0 02:S2-Roof-Ou    .09     .007 No_date    1:32   71.95  n/a     .000
04795>                          +   1.0 02:S2-Roof-Ov    .00     .000 No_date    0:00     .00  n/a     .000
04796>                      SUM=    1.0 01:S1TE2-IN       .45     .065 No_date    1:30   53.51  n/a     .000
04797> R1996:C00030-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04798>      ROUTE RESERVOIR ->    1.0 02:S1TE2-IN       .45     .065 No_date    1:30   53.51  n/a     .000
04799>                        out <=   1.0 01:S1TE2-Out     .45     .009 No_date    3:45   53.51  n/a     .000
04800>                overflow <=   1.0 03:S1TE2-Over    .00     .000 No_date    0:00     .00  n/a     .000
04801>        (MxStoUsed=.1389E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=     0, TotDurOvf=    0.hrs)
04802> R1996:C00031-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04803>      ADD HYD                 1.0 02:S1TE1-Out      .48     .008 No_date    3:42   52.80  n/a     .000
04804>                          +   1.0 02:S1TE1-Over    .00     .000 No_date    0:00     .00  n/a     .000
04805>                      SUM=    1.0 01:Site1          .48     .008 No_date    3:42   52.80  n/a     .000
04806> R1996:C00032-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04807>      ADD HYD                 1.0 02:S1TE2-Out      .45     .009 No_date    3:45   53.51  n/a     .000
04808>                          +   1.0 02:S1TE2-Over    .00     .000 No_date    0:00     .00  n/a     .000
04809>                      SUM=    1.0 01:Site2          .45     .009 No_date    3:45   53.51  n/a     .000
04810> R1996:C00033-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04811>      ADD HYD                 1.0 02:EXT2           .28     .023 No_date    3:26   42.02  n/a     .000
04812>                          +   1.0 02:Pre2_1        .01     .001 No_date    1:26   28.52  n/a     .000
04813>                          +   1.0 02:Site1          .48     .008 No_date    3:42   52.80  n/a     .000
04814>                          +   1.0 02:Site2          .45     .009 No_date    3:45   53.51  n/a     .000
04815>                      SUM=    1.0 01:J1             1.23     .040 No_date    3:26   50.29  n/a     .000
04816> R1996:C00034-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04817>      ROUTE CHANNEL   ->    1.0 02:J1             1.23     .040 No_date    3:26   50.29  n/a     .000
04818>        [RD= 1.00] out<-    1.0 01:R1             1.23     .039 No_date    3:32   50.29  n/a     .000
04819>        [L/S/n=  143./ .394/.035]
04820>        {Vmax=  .323:Dmax=  .129}
04821> R1996:C00035-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04822>      ADD HYD                 1.0 02:R1             1.23     .039 No_date    3:32   50.29  n/a     .000
04823>                          +   1.0 02:EXT3           .56     .041 No_date    3:26   36.11  n/a     .000
04824>                          +   1.0 02:EXT1          3.21     .134 No_date    3:49   36.11  n/a     .000
04825>                      SUM=    1.0 01:J2             5.00     .199 No_date    3:39   39.59  n/a     .000
04826> R1996:C00036-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04827>      ROUTE CHANNEL   ->    1.0 02:J2             5.00     .199 No_date    3:39   39.59  n/a     .000
04828>        [RD= 1.00] out<-    1.0 01:R2             5.00     .198 No_date    3:40   39.59  n/a     .000
04829>        [L/S/n=   73./ .425/.035]
04830>        {Vmax=  .491:Dmax=  .256}
04831> R1996:C00037-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04832>      ADD HYD                 1.0 02:R2             5.00     .198 No_date    3:40   39.59  n/a     .000
04833>                          +   1.0 02:EXT4           .31     .023 No_date    3:24   35.05  n/a     .000
04834>                      SUM=    1.0 01:J3             5.31     .215 No_date    3:38   39.32  n/a     .000
04835> R1996:C00038-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04836>      ROUTE CHANNEL   ->    1.0 02:J3             5.31     .215 No_date    3:38   39.32  n/a     .000
04837>        [RD= 1.00] out<-    1.0 01:R3             5.31     .213 No_date    3:41   39.32  n/a     .000
04838>        [L/S/n=   92./ .274/.035]
04839>        {Vmax=  .404:Dmax=  .265}
04840> R1996:C00039-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04841>      ADD HYD                 1.0 02:R3             5.31     .213 No_date    3:41   39.32  n/a     .000
04842>                          +   1.0 02:EXT5           .59     .031 No_date    3:34   32.07  n/a     .000
04843>                      SUM=    1.0 01:J4             5.90     .243 No_date    3:40   38.59  n/a     .000
04844> R1996:C00040-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04845>      ROUTE CHANNEL   ->    1.0 02:J4             5.90     .243 No_date    3:40   38.59  n/a     .000
04846>        [RD= 1.00] out<-    1.0 01:R4             5.90     .229 No_date    3:48   38.59  n/a     .000
04847>        [L/S/n=  251./ .190/.035]
04848>        {Vmax=  .396:Dmax=  .298}
04849> R1996:C00041-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04850>      ADD HYD                 1.0 02:R4             5.90     .229 No_date    3:48   38.59  n/a     .000
04851>                          +   1.0 02:EXT6           .86     .048 No_date    3:40   42.02  n/a     .000
04852>                          +   1.0 02:EXT7           .47     .037 No_date    3:26   39.53  n/a     .000
04853>                      SUM=    1.0 01:J5             7.23     .300 No_date    3:44   39.06  n/a     .000
04854> R1996:C00042-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04855>      ROUTE CHANNEL   ->    1.0 02:J5             7.23     .300 No_date    3:44   39.06  n/a     .000
04856>        [RD= 1.00] out<-    1.0 01:R5             7.23     .295 No_date    3:49   39.06  n/a     .000
04857>        [L/S/n=  237./ .644/.035]
04858>        {Vmax=  .642:Dmax=  .279}
04859> R1996:C00043-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04860>      ADD HYD                 1.0 02:Pre10_1        .80     .049 No_date    3:24   27.71  n/a     .000
04861>                          +   1.0 02:Pre9_2         .01     .001 No_date    1:26   19.50  n/a     .000
04862>                          +   1.0 02:Pre2_2         .00     .000 No_date    1:25   34.01  n/a     .000
04863>                      SUM=    1.0 01:Pre            .81     .049 No_date    3:24   27.58  n/a     .000
04864> R1996:C00044-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04865>      ROUTE CHANNEL   ->    1.0 02:Pre            .81     .049 No_date    3:24   27.58  n/a     .000
04866>        [RD= 1.00] out<-    1.0 01:R6             .81     .049 No_date    3:27   27.58  n/a     .000
04867>        [L/S/n=   77./ .776/.035]
04868>        {Vmax=  .492:Dmax=  .036}
04869> R1996:C00045-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04870>      ROUTE CHANNEL   ->    1.0 02:Pre9_1         .44     .022 No_date    3:30   27.71  n/a     .000
04871>        [RD= 1.00] out<-    1.0 01:R7             .44     .022 No_date    3:33   27.71  n/a     .000
04872>        [L/S/n=  159./1.576/.035]
04873>        {Vmax=  .797:Dmax=  .007}
04874> R1996:C00046-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04875>      ADD HYD                 1.0 02:R6             .81     .049 No_date    3:27   27.75  n/a     .000
04876>                          +   1.0 02:EXT10          .20     .010 No_date    3:32   27.70  n/a     .000
04877>                      SUM=    1.0 01:J6             1.02     .058 No_date    3:27   27.74  n/a     .000
04878> R1996:C00047-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04879>      ROUTE CHANNEL   ->    1.0 02:J6             1.02     .058 No_date    3:27   27.74  n/a     .000
04880>        [RD= 1.00] out<-    1.0 01:R8             1.02     .057 No_date    3:30   27.74  n/a     .000
04881>        [L/S/n=   79./ .522/.035]
04882>        {Vmax=  .423:Dmax=  .043}
04883> R1996:C00048-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04884>      ADD HYD                 1.0 02:R8             1.02     .057 No_date    3:30   27.86  n/a     .000
04885>                          +   1.0 02:R7             .44     .022 No_date    3:33   27.99  n/a     .000
04886>                      SUM=    1.0 01:J7             1.46     .079 No_date    3:31   27.90  n/a     .000
04887> R1996:C00049-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04888>      ROUTE CHANNEL   ->    1.0 02:J7             1.46     .079 No_date    3:31   27.90  n/a     .000
04889>        [RD= 1.00] out<-    1.0 01:R9             1.46     .079 No_date    3:32   27.90  n/a     .000
04890>        [L/S/n=   29./ .887/.035]
04891>        {Vmax=  .543:Dmax=  .054}
04892> R1996:C00050-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04893>      ADD HYD                 1.0 02:EXT9           3.57     .177 No_date    3:36   32.07  n/a     .000
04894>                          +   1.0 02:R9            1.46     .079 No_date    3:32   27.97  n/a     .000
04895>                          +   1.0 02:EXT8           .83     .049 No_date    3:32   35.05  n/a     .000
04896>                          +   1.0 02:R5             7.23     .295 No_date    3:49   39.06  n/a     .000
04897>                      SUM=    1.0 01:J8            13.09     .576 No_date    3:40   35.67  n/a     .000
04898> R1996:C00051-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04899>      ROUTE TPE       ->    1.0 02:J8            13.09     .576 No_date    3:40   35.67  n/a     .000
04900> *  [RD= 1.00] out<-    1.0 01:Outlet         13.09     .575 No_date    3:41   35.67  n/a     .000
04901>        [L/S/n=   8./ .010/.013]
04902>        {Vmax=  .433:Dmax=  1.140}
04903>        [Din=  .53:Dused= 1.39)
04904> ###############################################################################
04905> # STORMS
04906> ###############################################################################
04907>  ** END OF RUN : 9998
04908>
04909>  ************************************************************************************************
04910>
04911>
04912>
04913>
04914>
04915>  RUN#:COMMAND#
04916> R9999:C00001-----------------------------------------------------------------------------------
04917>      START
04918>        [TZERO =    .00 hrs on        0]
04919>        [METOUT=   2   (1=imperial, 2=metric output)]
04920>        [NSTORM=   1 ]
04921>        [NRUN  = 9999 ]
04922> #*************************************************************************************************
04923> #  SWMHYMO  / INPUT DATA FILE
04924> #*************************************************************************************************
04925> #  Project Name  : [5923 Ottawa St]
04926> #  Project Number: [P2710(e01)]
04927> #  Date          : [2025 April 28]
04928> #  Modeller      : [MM]
04929> #  Company       : JFSA Canada Inc.
04930> #  License #     : 2549237
04931> #*************************************************************************************************
04932> # Model developed to simulate runoff from subcatchments under post development conditions
04933> #*************************************************************************************************
04934> R9999:C00002-----------------------------------------------------------------------------------
04935>      READ STORM
04936>        Filename = STORM.001
04937>        Comment  = CHICAGO STORM   100 Year, 3 Hours  +20% Stress Test
04938>        [SDT=10.00:SDUR=   3.00:PTOT=  86.00]
04939> #*************************************************************************************************
04940> R9999:C00003-----------------------------------------------------------------------------------
04941>      DEFAULT VALUES
04942>        Filename = C:\Temp\20250910-PostDev\Ottawa.val
04943>        ICASEdv  = 1 (read and print data)
04944>        FileTitle= File comment: [Parameters for City of Ottawa Projects]
04945>                   THE FOLLOWING PARAMETERS ARE USED IN THE DESIGN STANDHYD COM
04946>        Horton's infiltration equation parameters:
04947>        [Fo= 76.20 mm/hr] [Fc=13.20 mm/hr] [DCAY= 4.14 /hr] [F=  .00 mm]
04948>        Parameters for PERVIOUS surfaces in STANDHYD:
04949>        [IAper=   4.67 mm] [LGP=40.00 m] [MNP= .250]
04950>        Parameters for IMPERVIOUS surfaces in STANDHYD:
04951>        [IAimp=   1.57 mm] [CLI= 1.50]  [MNI= .013]
04952>        Parameters used in NASHYD:
04953>        [Ia=   4.67 mm] [N= 3.00]
04954>        Average monthly Pan Evaporation data in    (mm)
04955>     JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
04956>    .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
04957>        Average monthly Potential Evapotranspiration in    (mm)
04958>     JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
04959>    .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
04960> #*************************************************************************************************
04961> # EXT1
04962> #*************************************************************************************************
04963> R9999:C00004-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04964>      CALIB NASHYD            1.0 01:EXT1           3.21     .224 No_date    1:51   45.67 .531    .000
04965>        [CN= 80.0: N= 3.00: Tp=  .72]
04966> #*************************************************************************************************
04967> # EXT2
04968> #*************************************************************************************************
04969> R9999:C00005-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04970>      CALIB NASHYD            1.0 01:EXT2           .28     .041 No_date    1:21   52.43 .610    .000
04971>        [CN= 85.0: N= 3.00: Tp=  .33]
04972> #*************************************************************************************************
04973> # EXT3
04974> #*************************************************************************************************
04975> R9999:C00006-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04976>      CALIB NASHYD            1.0 01:EXT3           .56     .070 No_date    1:21   45.67 .531    .000
04977>        [CN= 80.0: N= 3.00: Tp=  .32]
04978> #*************************************************************************************************
04979> # EXT4
04980> #*************************************************************************************************
04981> R9999:C00007-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04982>      CALIB NASHYD            1.0 01:EXT4           .31     .040 No_date    1:19   44.44 .517    .000
04983>        [CN= 79.0: N= 3.00: Tp=  .29]
04984> #*************************************************************************************************
04985> # EXT5
04986> #*************************************************************************************************
04987> R9999:C00008-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04988>      CALIB NASHYD            1.0 01:EXT5           .59     .052 No_date    1:31   40.94 .476    .000
04989>        [CN= 76.0: N= 3.00: Tp=  .45]
04990> #*************************************************************************************************
04991> # EXT6
04992> #*************************************************************************************************
04993> R9999:C00009-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04994>      CALIB NASHYD            1.0 01:EXT6           .86     .085 No_date    1:38   52.43 .610    .000
04995>        [CN= 85.0: N= 3.00: Tp=  .56]
04996> #*************************************************************************************************
04997> # EXT7
04998> #*************************************************************************************************
04999> R9999:C00010-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05000>      CALIB NASHYD            1.0 01:EXT7           .47     .064 No_date    1:21   49.60 .577    .000
05001>        [CN= 83.0: N= 3.00: Tp=  .32]
05002> #*************************************************************************************************
05003> # EXT8
05004> #*************************************************************************************************
05005> R9999:C00011-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05006>      CALIB NASHYD            1.0 01:EXT8           .83     .083 No_date    1:29   44.44 .517    .000
05007>        [CN= 79.0: N= 3.00: Tp=  .42]
05008> #*************************************************************************************************
05009> # EXT9
05010> #*************************************************************************************************
05011> R9999:C00012-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05012>      CALIB NASHYD            1.0 01:EXT9           3.57     .297 No_date    1:34   40.95 .476    .000
05013>        [CN= 76.0: N= 3.00: Tp=  .48]
05014> #*************************************************************************************************
05015> # EXT9a
05016> #*************************************************************************************************
05017> R9999:C00013-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05018>      CALIB NASHYD            1.0 01:EXT9a          .01     .004 No_date    1:00   43.23 .503    .000
05019>        [CN= 78.0: N= 3.00: Tp=  .04]
05020> #*************************************************************************************************
05021> # EXT10
05022> #*************************************************************************************************
05023> R9999:C00014-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05024>      CALIB NASHYD            1.0 01:EXT10          .20     .016 No_date    1:29   35.74 .416    .000
05025>        [CN= 71.0: N= 3.00: Tp=  .42]
05026> #*************************************************************************************************
05027> # Pre2_1
05028> #*************************************************************************************************
05029> R9999:C00015-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05030> *  CALIB NASHYD            1.0 01:Pre2_1         .01     .004 No_date    1:00   36.72 .427    .000
05031>        [CN= 72.0: N= 3.00: Tp=  .03]
05032> #*************************************************************************************************
05033> # Pre2_2
05034> #*************************************************************************************************
05035> R9999:C00016-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05036> *  CALIB NASHYD            1.0 01:Pre2_2         .00     .001 No_date    1:00   43.22 .503    .000
05037>        [CN= 78.0: N= 3.00: Tp=  .02]
05038> #*************************************************************************************************
05039> # Pre9_1
05040> #*************************************************************************************************
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05041> R9999:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05042>      CALIB NASHYD           1.0 01:Pre9_1          .44     .037 No_date    1:26   35.74 .416     .000
05043>        [CN= 71.0: N= 3.00: Tp=  .38]
05044> ********************************************************************************
05045> # Pre9_2
05046> ********************************************************************************
05047> R9999:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05048>  *  CALIB NASHYD           1.0 01:Pre9_2          .01     .003 No_date    1:00   25.65 .298     .000
05049>        [CN= 59.0: N= 3.00: Tp=  .03]
05050> ********************************************************************************
05051> # Pre10_1
05052> ********************************************************************************
05053> R9999:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05054>      CALIB NASHYD           1.0 01:Pre10_1         .80     .080 No_date    1:19   35.74 .416     .000
05055>        [CN= 71.0: N= 3.00: Tp=  .29]
05056> ********************************************************************************
05057> # Pre11_1
05058> ********************************************************************************
05059> R9999:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05060>      CALIB NASHYD           1.0 01:Pre11_1         .07     .010 No_date    1:13   43.23 .503     .000
05061>        [CN= 78.0: N= 3.00: Tp=  .21]
05062> ********************************************************************************
05063> # Site 1
05064> ********************************************************************************
05065> R9999:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05066>      DESIGN STANDHYD        1.0 01:S1-B1           .42     .162 No_date    1:00   59.13 .688     .000
05067>        [XIMP=.34:TIMP=.44]
05068>        [SLP=1.00:DT= 1.00]
05069>        [LOSS= 1 : HORTONS]
05070> ********************************************************************************
05071> # Site 1 - Roof
05072> ********************************************************************************
05073> R9999:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05074>      DESIGN STANDHYD        1.0 01:S1-Roof         .06     .038 No_date    1:00   83.99 .977     .000
05075>        [XIMP=.99:TIMP=.99]
05076>        [SLP=  .50:DT= 1.00]
05077>        [LOSS= 1 : HORTONS]
05078> R9999:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05079>      ROUTE RESERVOIR ->     1.0 02:S1-Roof         .06     .038 No_date    1:00   83.99  n/a     .000
05080>                   out <=    1.0 01:S1-Roof-Ou      .06     .004 No_date    1:30   83.99  n/a     .000
05081>                overflow <=  1.0 03:S1-Roof-Ov      .00     .000 No_date    0:00    .00  n/a     .000
05082>       (MxStoUsed=.828E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs)
05083> R9999:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05084>      ADD HYD                1.0 02:S1-B1           .42     .162 No_date    1:00   59.13  n/a     .000
05085>                       +     1.0 02:S1-Roof-Ou      .06     .004 No_date    1:30   83.99  n/a     .000
05086>                       +     1.0 02:S1-Roof-Ov      .00     .000 No_date    0:00    .00  n/a     .000
05087>                     SUM=    1.0 01:SITE1-IN        .48     .165 No_date    1:00   62.50  n/a     .000
05088> R9999:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05089>      ROUTE RESERVOIR ->     1.0 02:SITE1-IN        .48     .165 No_date    1:00   62.50  n/a     .000
05090>                   out <=    1.0 01:SITE1-Out       .48     .013 No_date    1:49   62.50  n/a     .000
05091>                overflow <=  1.0 03:SITE1-Over      .00     .000 No_date    0:00    .00  n/a     .000
05092>       (MxStoUsed=.2031E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs)
05093> ********************************************************************************
05094> # Site 2
05095> ********************************************************************************
05096> R9999:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05097>      DESIGN STANDHYD        1.0 01:S2-B3           .35     .135 No_date    1:00   57.84 .673     .000
05098>        [XIMP=.31:TIMP=.41]
05099>        [SLP=1.00:DT= 1.00]
05100>        [LOSS= 1 : HORTONS]
05101> ********************************************************************************
05102> # Site 2 - Roof
05103> ********************************************************************************
05104> R9999:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05105>      DESIGN STANDHYD        1.0 01:S2-Roof         .09     .055 No_date    1:00   83.99 .977     .000
05106>        [XIMP=.99:TIMP=.99]
05107>        [SLP=  .50:DT= 1.00]
05108>        [LOSS= 1 : HORTONS]
05109> ********************************************************************************
05110> R9999:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05111>      ROUTE RESERVOIR ->     1.0 02:S2-Roof         .09     .055 No_date    1:00   83.99  n/a     .000
05112>                   out <=    1.0 01:S2-Roof-Ou      .09     .009 No_date    1:13   84.01  n/a     .000
05113>                overflow <=  1.0 03:S2-Roof-Ov      .00     .000 No_date    0:00    .00  n/a     .000
05114>       (MxStoUsed=.4074E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs)
05115> R9999:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05116>      ADD HYD                1.0 02:S2-B3           .35     .135 No_date    1:00   57.84  n/a     .000
05117>                       +     1.0 02:S2-Roof-Ou      .09     .009 No_date    1:13   84.01  n/a     .000
05118>                       +     1.0 02:S2-Roof-Ov      .00     .000 No_date    0:00    .00  n/a     .000
05119>                     SUM=    1.0 01:SITE2-IN        .45     .144 No_date    1:00   63.28  n/a     .000
05120> R9999:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05121>      ROUTE RESERVOIR ->     1.0 02:SITE2-IN        .45     .144 No_date    1:00   63.28  n/a     .000
05122>                   out <=    1.0 01:SITE2-Out       .45     .014 No_date    1:56   63.28  n/a     .000
05123>                overflow <=  1.0 03:SITE2-Over      .00     .000 No_date    0:00    .00  n/a     .000
05124>       (MxStoUsed=.1876E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs)
05125> R9999:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05126>      ADD HYD                1.0 02:SITE1-Out       .48     .013 No_date    1:49   62.50  n/a     .000
05127>                       +     1.0 02:SITE1-Over      .00     .000 No_date    0:00    .00  n/a     .000
05128>                     SUM=    1.0 01:Site1           .48     .013 No_date    1:49   62.50  n/a     .000
05129> R9999:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05130>      ADD HYD                1.0 02:SITE2-Out       .45     .014 No_date    1:56   63.28  n/a     .000
05131>                       +     1.0 02:SITE2-Over      .00     .000 No_date    0:00    .00  n/a     .000
05132>                     SUM=    1.0 01:Site2           .45     .014 No_date    1:56   63.28  n/a     .000
05133> R9999:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05134>      ADD HYD                1.0 02:EXT2            .28     .041 No_date    1:21   52.43  n/a     .000
05135>                       +     1.0 02:Pre2_1          .01     .004 No_date    1:00   36.72  n/a     .000
05136>                       +     1.0 02:Site1           .48     .013 No_date    1:49   62.50  n/a     .000
05137>                       +     1.0 02:Site2           .45     .014 No_date    1:56   63.28  n/a     .000
05138>                     SUM=    1.0 01:J1             1.23     .061 No_date    1:27   60.17  n/a     .000
05139> R9999:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05140>      ROUTE CHANNEL   ->     1.0 02:J1             1.23     .061 No_date    1:27   60.17  n/a     .000
05141>        [RDT= 1.00] out<-    1.0 01:R1             1.23     .059 No_date    1:31   60.17  n/a     .000
05142>        [L/S/n=  143./ .394/.035]
05143>        {Vmax=  .366:Dmax=  .156}
05144> R9999:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05145>      ADD HYD                1.0 02:R1             1.23     .059 No_date    1:31   60.17  n/a     .000
05146>                       +     1.0 02:EXT3            .56     .070 No_date    1:21   45.67  n/a     .000
05147>                       +     1.0 02:EXT1           3.21     .224 No_date    1:51   45.67  n/a     .000
05148>                     SUM=    1.0 01:J2             5.00     .321 No_date    1:41   49.22  n/a     .000
05149> R9999:C00036------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05150>      ROUTE CHANNEL   ->     1.0 02:J2             5.00     .321 No_date    1:41   49.22  n/a     .000
05151>        [RDT= 1.00] out<-    1.0 01:R2             5.00     .320 No_date    1:43   49.22  n/a     .000
05152>        [L/S/n=  73./ .425/.035]
05153>        {Vmax=  .558:Dmax=  .310}
05154> R9999:C00037------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05155>      ADD HYD                1.0 02:R2             5.00     .320 No_date    1:43   49.22  n/a     .000
05156>                       +     1.0 02:EXT4            .31     .040 No_date    1:19   44.44  n/a     .000
05157>                     SUM=    1.0 01:J3             5.31     .345 No_date    1:39   48.94  n/a     .000
05158> R9999:C00038------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05159>      ROUTE CHANNEL   ->     1.0 02:J3             5.31     .345 No_date    1:39   48.94  n/a     .000
05160>        [RDT= 1.00] out<-    1.0 01:R3             5.31     .344 No_date    1:42   48.94  n/a     .000
05161>        [L/S/n=  92./ .274/.035]
05162>        {Vmax=  .456:Dmax=  .320}
05163> R9999:C00039------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05164>      ADD HYD                1.0 02:R3             5.31     .344 No_date    1:42   48.94  n/a     .000
05165>                       +     1.0 02:EXT5            .59     .052 No_date    1:31   40.94  n/a     .000
05166>                     SUM=    1.0 01:J4             5.90     .392 No_date    1:40   48.14  n/a     .000
05167> R9999:C00040------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05168>      ROUTE CHANNEL   ->     1.0 02:J4             5.90     .392 No_date    1:40   48.14  n/a     .000
05169>        [RDT= 1.00] out<-    1.0 01:R4             5.90     .375 No_date    1:49   48.14  n/a     .000
05170>        [L/S/n=  251./ .190/.035]
05171>        {Vmax=  .454:Dmax=  .369}
05172> R9999:C00041------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05173>      ADD HYD                1.0 02:R4             5.90     .375 No_date    1:49   48.14  n/a     .000
05174>                       +     1.0 02:EXT6            .86     .085 No_date    1:38   52.43  n/a     .000
05175>                       +     1.0 02:EXT7           .47     .064 No_date    1:21   49.60  n/a     .000
05176>                     SUM=    1.0 01:J5             7.23     .495 No_date    1:44   48.75  n/a     .000
05177> R9999:C00042------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05178>      ROUTE CHANNEL   ->     1.0 02:J5             7.23     .495 No_date    1:44   48.75  n/a     .000
05179>        [RDT= 1.00] out<-    1.0 01:R5             7.23     .490 No_date    1:49   48.75  n/a     .000
05180>        [L/S/n=  237./ .644/.035]
05181>        {Vmax=  .746:Dmax=  .341}
05182> R9999:C00043------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05183>      ADD HYD                1.0 02:Pre10_1         .80     .080 No_date    1:19   35.74  n/a     .000
05184>                       +     1.0 02:Pre9_2          .01     .003 No_date    1:00   25.65  n/a     .000
05185>                       +     1.0 02:Pre2_2          .00     .001 No_date    1:00   43.22  n/a     .000
05186>                     SUM=    1.0 01:Pre             .81     .081 No_date    1:19   35.58  n/a     .000
05187> R9999:C00044------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05188>      ROUTE CHANNEL   ->     1.0 02:Pre             .81     .081 No_date    1:19   35.58  n/a     .000
05189>        [RDT= 1.00] out<-    1.0 01:R6             .81     .080 No_date    1:22   35.58  n/a     .000
05190>        [L/S/n=  77./ .776/.035]
05191>        {Vmax=  .492:Dmax=  .059}
05192> R9999:C00045------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05193>      ROUTE CHANNEL   ->     1.0 02:Pre9_1          .44     .037 No_date    1:26   35.74  n/a     .000
05194>        [RDT= 1.00] out<-    1.0 01:R7             .44     .036 No_date    1:30   35.74  n/a     .000
05195>        [L/S/n=  159./1.576/.035]
05196>        {Vmax=  .797:Dmax=  .011}
05197> R9999:C00046------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05198>      ADD HYD                1.0 02:R6             .81     .080 No_date    1:22   35.96  n/a     .000
05199>                       +     1.0 02:EXT10           .20     .016 No_date    1:29   35.74  n/a     .000
05200>                     SUM=    1.0 01:J6             1.02     .095 No_date    1:23   35.91  n/a     .000
05201> R9999:C00047------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05202>      ROUTE CHANNEL   ->     1.0 02:J6             1.02     .095 No_date    1:23   35.91  n/a     .000
05203>        [RDT= 1.00] out<-    1.0 01:R8             1.02     .093 No_date    1:26   35.91  n/a     .000
05204>        [L/S/n=  79./ .522/.035]
05205>        {Vmax=  .423:Dmax=  .070}
05206> R9999:C00048------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05207>      ADD HYD                1.0 02:R8             1.02     .093 No_date    1:26   36.11  n/a     .000
05208>                       +     1.0 02:R7             .44     .036 No_date    1:30   36.23  n/a     .000
05209>                     SUM=    1.0 01:J7             1.46     .129 No_date    1:27   36.15  n/a     .000
05210> R9999:C00049------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05211>      ROUTE CHANNEL   ->     1.0 02:J7             1.46     .129 No_date    1:27   36.15  n/a     .000
05212>        [RDT= 1.00] out<-    1.0 01:R9             1.46     .129 No_date    1:28   36.15  n/a     .000
05213>        [L/S/n=  29./ .887/.035]
05214>        {Vmax=  .543:Dmax=  .088}
05215> R9999:C00050------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05216>      ADD HYD                1.0 02:EXT9           3.57     .297 No_date    1:34   40.95  n/a     .000
05217>                       +     1.0 02:R9             1.46     .129 No_date    1:28   36.27  n/a     .000
05218>                       +     1.0 02:EXT8            .83     .083 No_date    1:29   44.44  n/a     .000
05219>                       +     1.0 02:R5             7.23     .490 No_date    1:49   48.75  n/a     .000
05220>                     SUM=    1.0 01:J8            13.09     .951 No_date    1:39   44.96  n/a     .000
05221> R9999:C00051------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05222>      ROUTE PIPE      ->     1.0 02:J8             13.09     .951 No_date    1:39   44.96  n/a     .000
05223>  *   [RDT= 1.00] out<-    1.0 01:Outlet         13.09     .951 No_date    1:40   44.96  n/a     .000
05224>        [L/S/n=   8./ .010/.013]
05225>        {Vmax=  .491:Dmax= 1.376}
05226>        [Din=  .53:Dused= 1.68]
05227> ##############################################################################
05228> # STORMS
05229> ##############################################################################
05230> R9999:C00002-------------------------------------------------------------------------------
05231>      FINISH
05232> -------------------------------------------------------------------------------
05233> ================================================================================
05234>      WARNINGS / ERRORS / NOTES
05235>      -------------------------
05236> R0002:c00015  CALIB NASHYD
05237> *** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
05238> R0002:c00016  CALIB NASHYD
05239> *** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
05240> R0002:c00018  CALIB NASHYD
05241> *** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
05242> R0002:c00051  ROUTE PIPE     ->
05243> *** WARNING: New pipe size used for routing.
05244> R0005:c00015  CALIB NASHYD
05245> *** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
05246> R0005:c00016  CALIB NASHYD
05247> *** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
05248> R0005:c00018  CALIB NASHYD
05249> *** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
05250> R0005:c00051  ROUTE PIPE     ->
05251> *** WARNING: New pipe size used for routing.
05252> R0010:c00015  CALIB NASHYD
05253> *** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
05254> R0010:c00016  CALIB NASHYD
05255> *** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
05256> R0010:c00018  CALIB NASHYD
05257> *** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
05258> R0010:c00051  ROUTE PIPE     ->
05259> *** WARNING: New pipe size used for routing.
05260> R0025:c00015  CALIB NASHYD
05261> *** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
05262> R0025:c00016  CALIB NASHYD
05263> *** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
05264> R0025:c00018  CALIB NASHYD
05265> *** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
05266> R0025:c00051  ROUTE PIPE     ->
05267> *** WARNING: New pipe size used for routing.
05268> R0050:c00015  CALIB NASHYD
05269> *** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
05270> R0050:c00016  CALIB NASHYD
05271> *** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
05272> R0050:c00018  CALIB NASHYD
05273> *** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
05274> R0050:c00051  ROUTE PIPE     ->
05275> *** WARNING: New pipe size used for routing.
05276> R0099:c00015  CALIB NASHYD
05277> *** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
05278> R0099:c00016  CALIB NASHYD
05279> *** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
05280> R0099:c00018  CALIB NASHYD
05281> *** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
05282> R0099:c00051  ROUTE PIPE     ->
05283> *** WARNING: New pipe size used for routing.
05284> R0102:c00015  CALIB NASHYD
05285> *** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
05286> R0102:c00016  CALIB NASHYD
05287> *** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
05288> R0102:c00018  CALIB NASHYD
05289> *** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
05290> R0102:c00051  ROUTE PIPE     ->
05291> *** WARNING: New pipe size used for routing.
05292> R0105:c00015  CALIB NASHYD
05293> *** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
05294> R0105:c00016  CALIB NASHYD
05295> *** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
05296> R0105:c00018  CALIB NASHYD
05297> *** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
05298> R0105:c00051  ROUTE PIPE     ->
05299> *** WARNING: New pipe size used for routing.
05300> R0110:c00015  CALIB NASHYD
05301> *** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
05302> R0110:c00016  CALIB NASHYD
05303> *** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
05304> R0110:c00018  CALIB NASHYD
05305> *** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
05306> R0110:c00051  ROUTE PIPE     ->
05307> *** WARNING: New pipe size used for routing.
05308> R0125:c00015  CALIB NASHYD
05309> *** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
05310> R0125:c00016  CALIB NASHYD
05311> *** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
05312> R0125:c00018  CALIB NASHYD
05313> *** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
05314> R0125:c00051  ROUTE PIPE     ->
05315> *** WARNING: New pipe size used for routing.
05316> R0150:c00015  CALIB NASHYD
05317> *** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
05318> R0150:c00016  CALIB NASHYD
05319> *** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
05320> R0150:c00018  CALIB NASHYD
05321> *** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
05322> R0150:c00051  ROUTE PIPE     ->
05323> *** WARNING: New pipe size used for routing.
05324> R0199:c00015  CALIB NASHYD
05325> *** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
05326> R0199:c00016  CALIB NASHYD
05327> *** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
05328> R0199:c00018  CALIB NASHYD
05329> *** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
05330> R0199:c00051  ROUTE PIPE     ->
05331> *** WARNING: New pipe size used for routing.
05332> R1979:c00015  CALIB NASHYD
05333> *** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
05334> R1979:c00016  CALIB NASHYD
05335> *** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
05336> R1979:c00018  CALIB NASHYD
05337> *** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
05338> R1979:c00051  ROUTE PIPE     ->
05339> *** WARNING: New pipe size used for routing.
05340> R1988:c00015  CALIB NASHYD
05341> *** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
05342> R1988:c00016  CALIB NASHYD
05343> *** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
05344> R1988:c00018  CALIB NASHYD
05345> *** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
05346> R1988:c00051  ROUTE PIPE     ->
05347> *** WARNING: New pipe size used for routing.
05348> R1996:c00015  CALIB NASHYD
05349> *** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
05350> R1996:c00016  CALIB NASHYD
05351> *** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
05352> R1996:c00018  CALIB NASHYD
05353> *** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
05354> R1996:c00051  ROUTE PIPE     ->
05355> *** WARNING: New pipe size used for routing.
05356> R9999:c00015  CALIB NASHYD
05357> *** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
05358> R9999:c00016  CALIB NASHYD
05359> *** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
05360> R9999:c00018  CALIB NASHYD
05361> *** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
05362> R9999:c00051  ROUTE PIPE     ->
05363> *** WARNING: New pipe size used for routing.
05364>      Simulation ended on 2025-09-11     at 20:20:05
05365> ================================================================================
05366>
```

Attachment C

Hydraulic Analysis

N

Legend

- Site Boundary
- Jock River Tributary
- Centerline
- HEC-RAS XS

SCALE: 1:3000

0 50 100 150 m

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Figure C1: HEC-RAS Cross Sections

PROJECT	P2710(e01)
DRAWN	MM
DATE	10 Sept 2025

C:\Users\JonathonBurnett\J.F. Sabourin and Associates Inc\JFSA-OTTAWA-SERVER - Documents\PROJ\2710(e01)\Design\GIS\20250603-Attachments

N

Legend

- Site Boundary

Pre-Development Flood Extents

- 2YrSCS24Hr
- 5YrSCS24Hr
- 10YrSCS24Hr
- 25YrSCS24Hr
- 50YrSCS24Hr
- 100YrSCS24Hr
- Spill Line

SCALE: 1:2500

0 50 100 m

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Figure C2: Pre-Development Flood Extents

PROJECT	P2719(e01)
DRAWN	BT
DATE	5 June 2025

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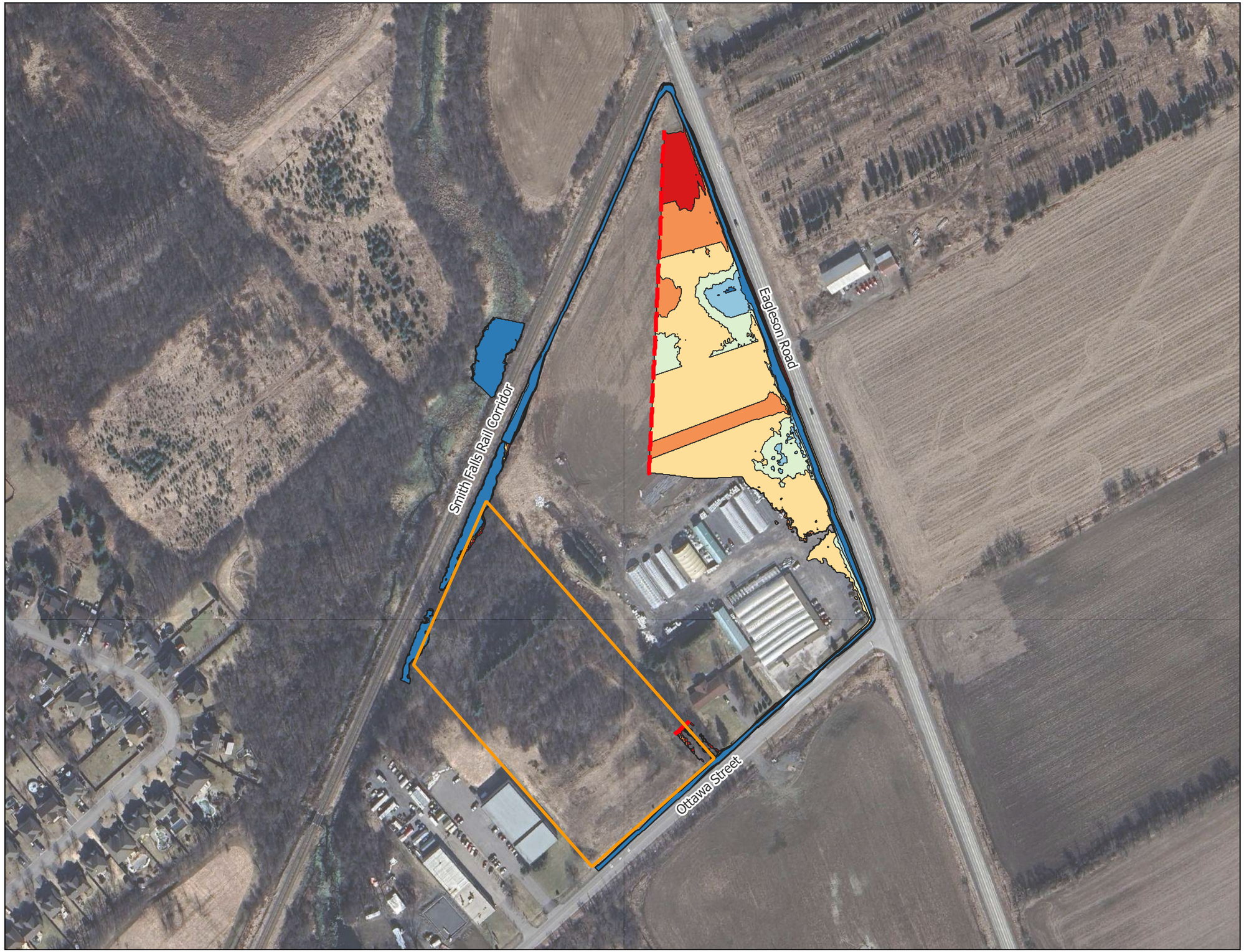

N

Legend

- Site Boundary
- Post-Development Flood Extents
  - 2YrSCS24Hr
  - 5YrSCS24Hr
  - 10YrSCS24Hr
  - 25YrSCS24Hr
  - 50YrSCS24Hr
  - 100YrSCS24Hr
- Spill Line

SCALE: 1:2500

0 50 100 m

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Figure C3: Post-Development Flood Extents

PROJECT	P2719(e01)
DRAWN	BT
DATE	10 Sept 2025

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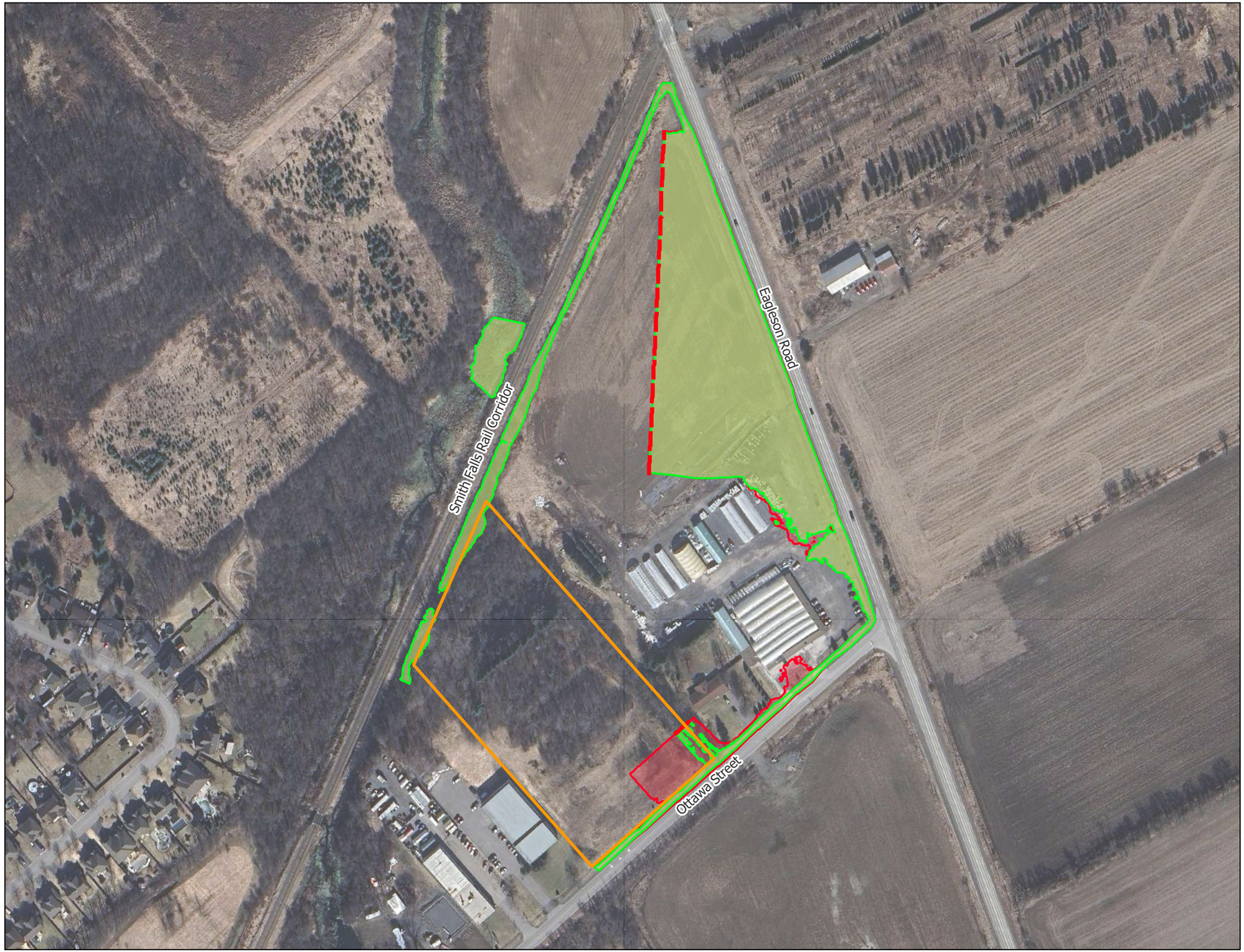

N

Legend

- Site Boundary
- Spill Line
- Pre-Development 100yr
- Post-Dev 100yr

SCALE: 1:2500

0 50 100 m

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Figure C4: 100-yr Floodplain Extents Comparison

PROJECT	P2719(e01)
DRAWN	BT
DATE	10 Sept 2025

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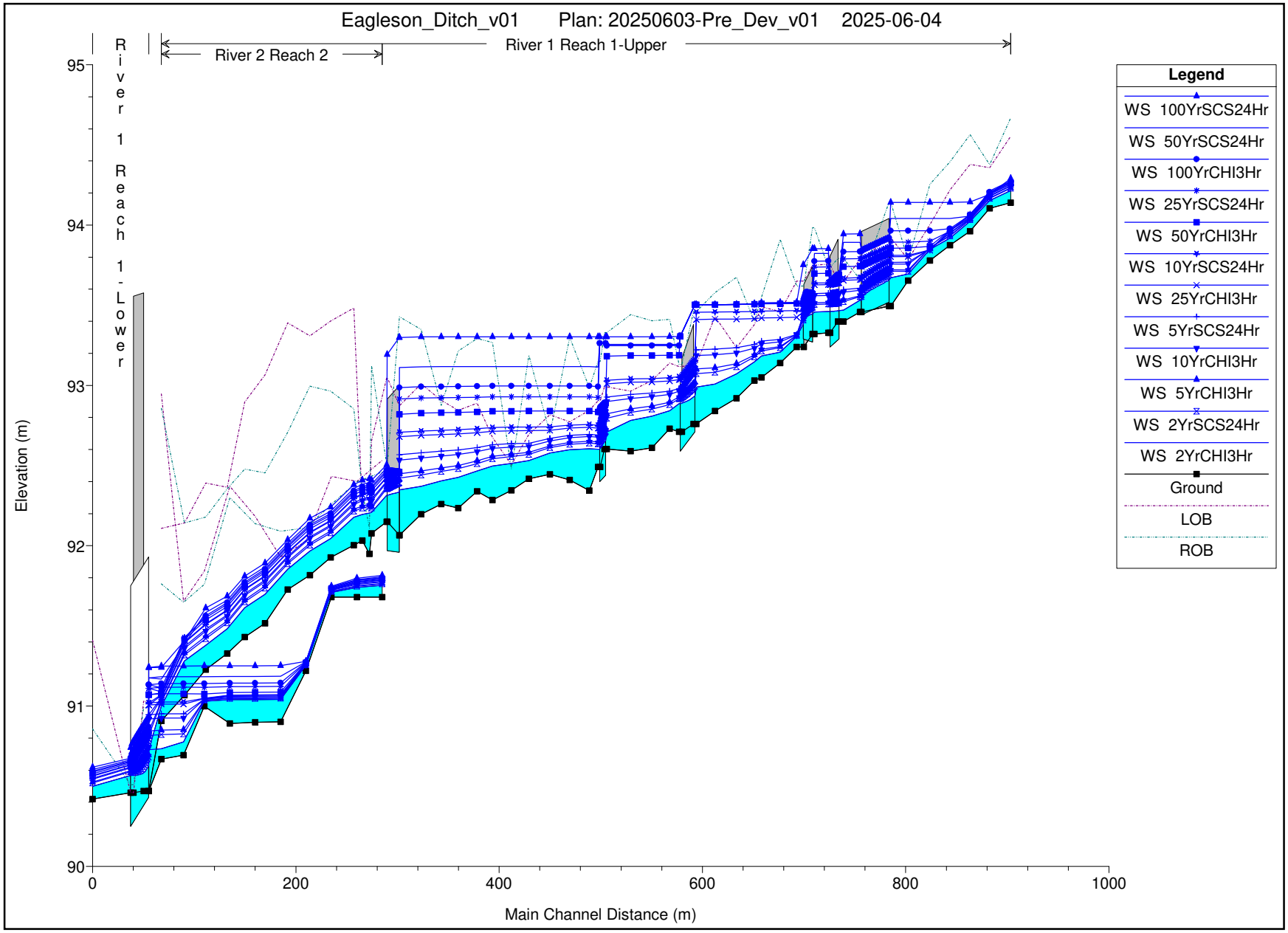
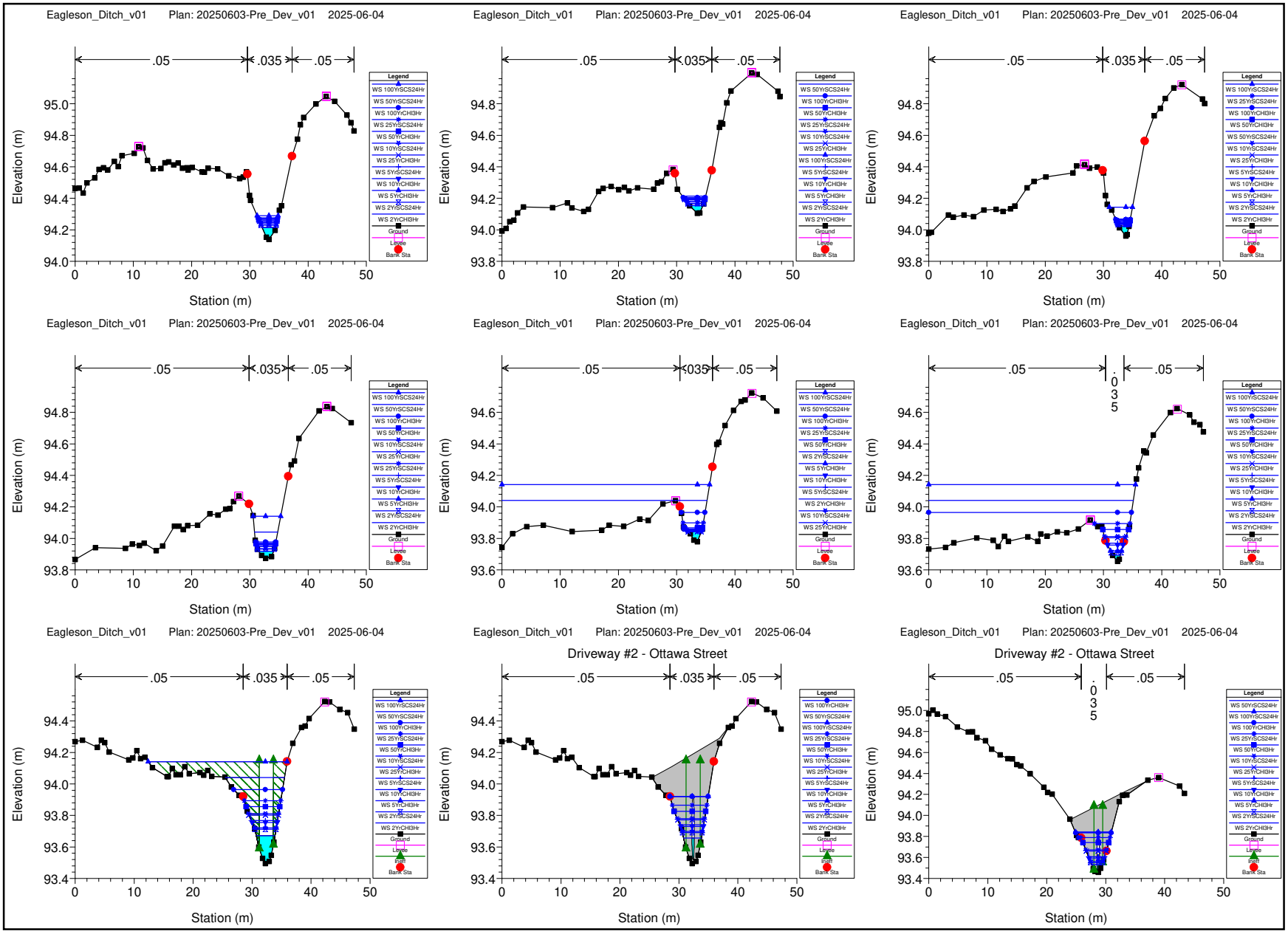

Eagleson_Ditch_v01 Plan: 20250603-Pre_Dev_v01 2025-06-04
River 2 Reach 2
River 1 Reach 1-Upper
River 1 Reach 1-Lower
Elevation (m)
Main Channel Distance (m)
95
94
93
92
91
90
0
200
400
600
800
1000
Legend
WS 100YrSCS24Hr
WS 50YrSCS24Hr
WS 100YrCHI3Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 5YrSCS24Hr
WS 10YrCHI3Hr
WS 5YrCHI3Hr
WS 2YrSCS24Hr
WS 2YrCHI3Hr
Ground
LOB
ROB



Eagleson_Ditch_v01 Plan: 20250603-Pre_Dev_v01 2025-06-04

Eagleson_Ditch_v01 Plan: 20250603-Pre_Dev_v01 2025-06-04

Eagleson_Ditch_v01 Plan: 20250603-Pre_Dev_v01 2025-06-04

Eagleson_Ditch_v01 Plan: 20250603-Pre_Dev_v01 2025-06-04

Eagleson_Ditch_v01 Plan: 20250603-Pre_Dev_v01 2025-06-04

Eagleson_Ditch_v01 Plan: 20250603-Pre_Dev_v01 2025-06-04

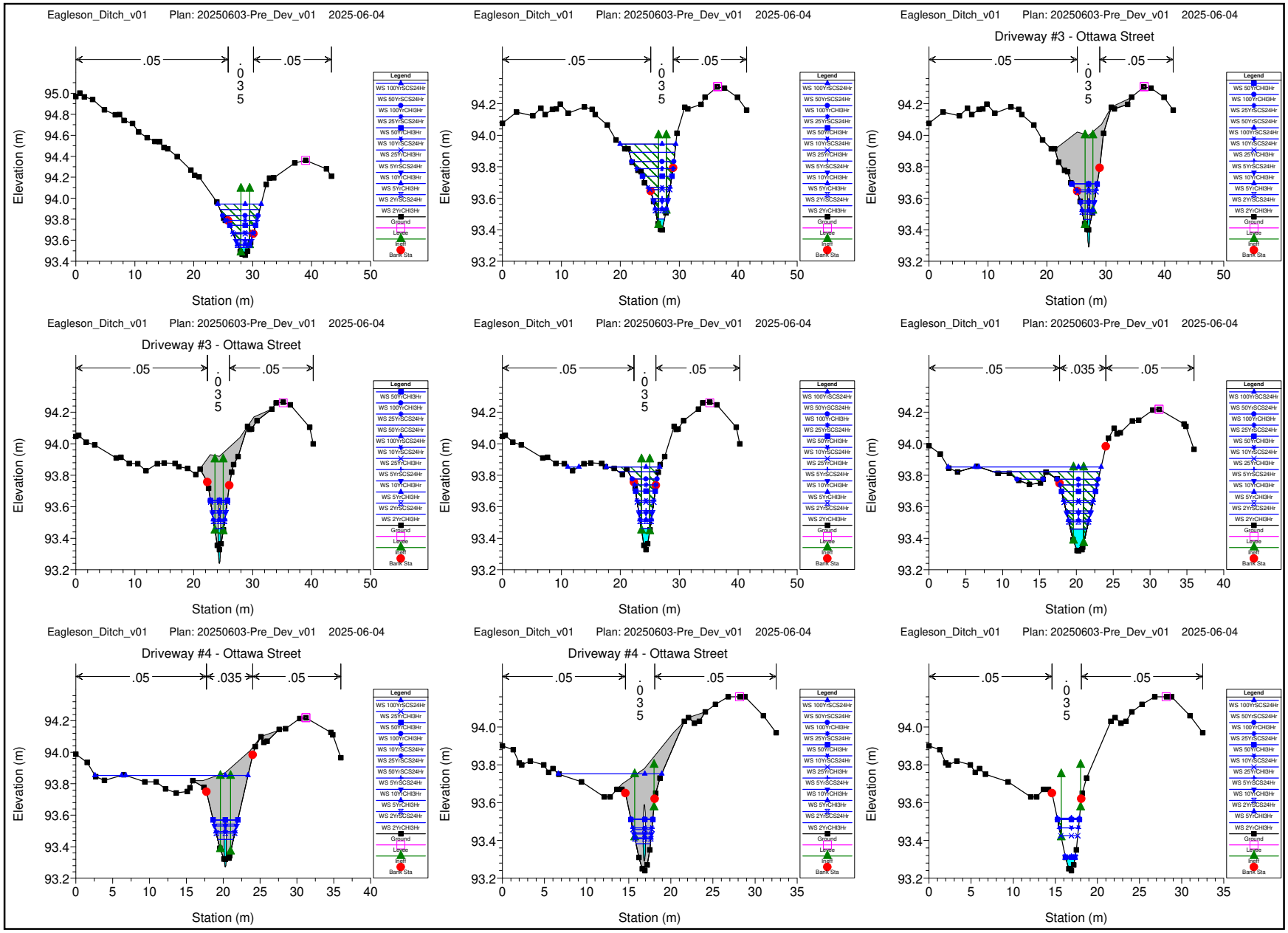
Eagleson_Ditch_v01 Plan: 20250603-Pre_Dev_v01 2025-06-04

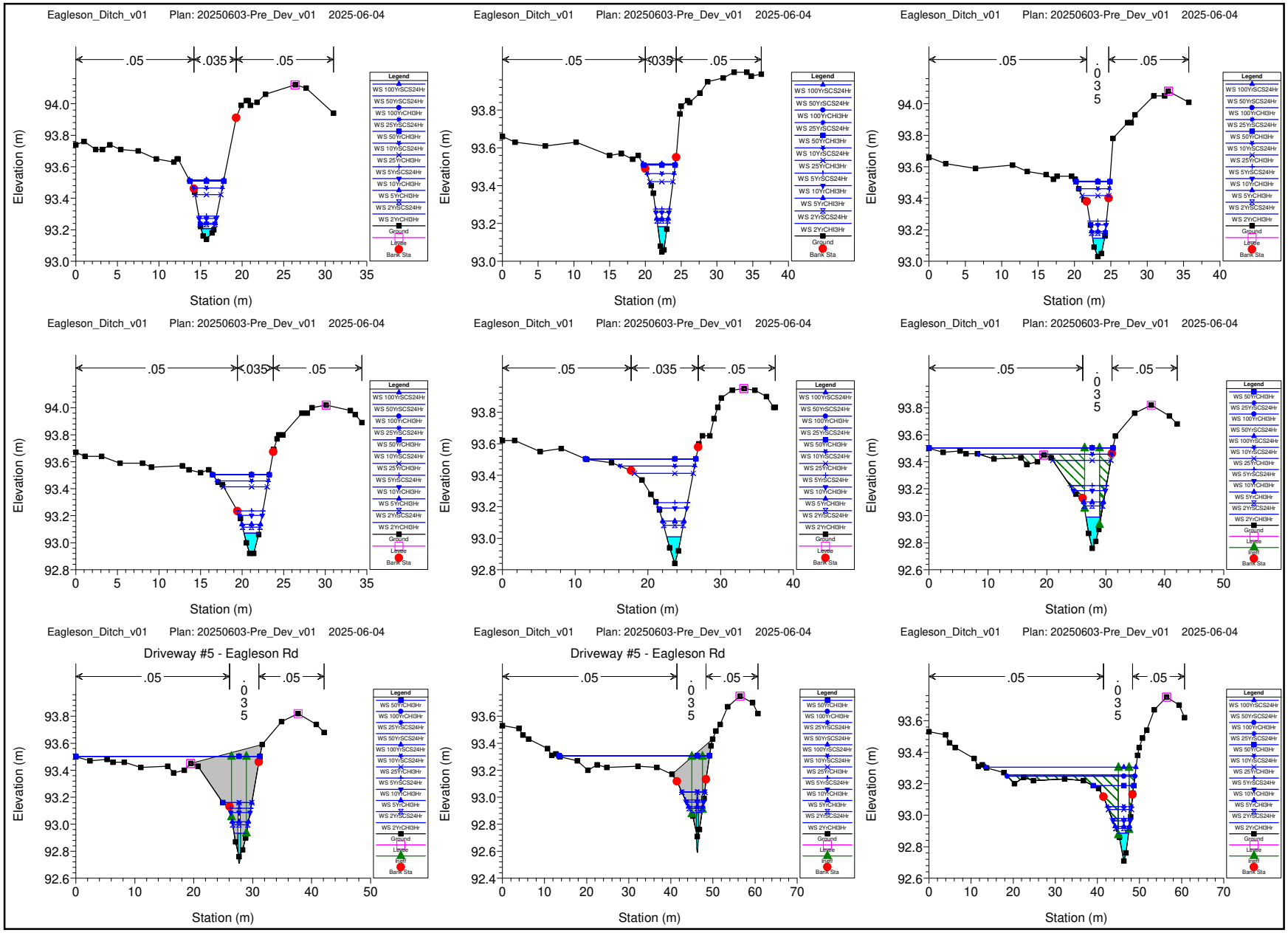
Eagleson_Ditch_v01 Plan: 20250603-Pre_Dev_v01 2025-06-04

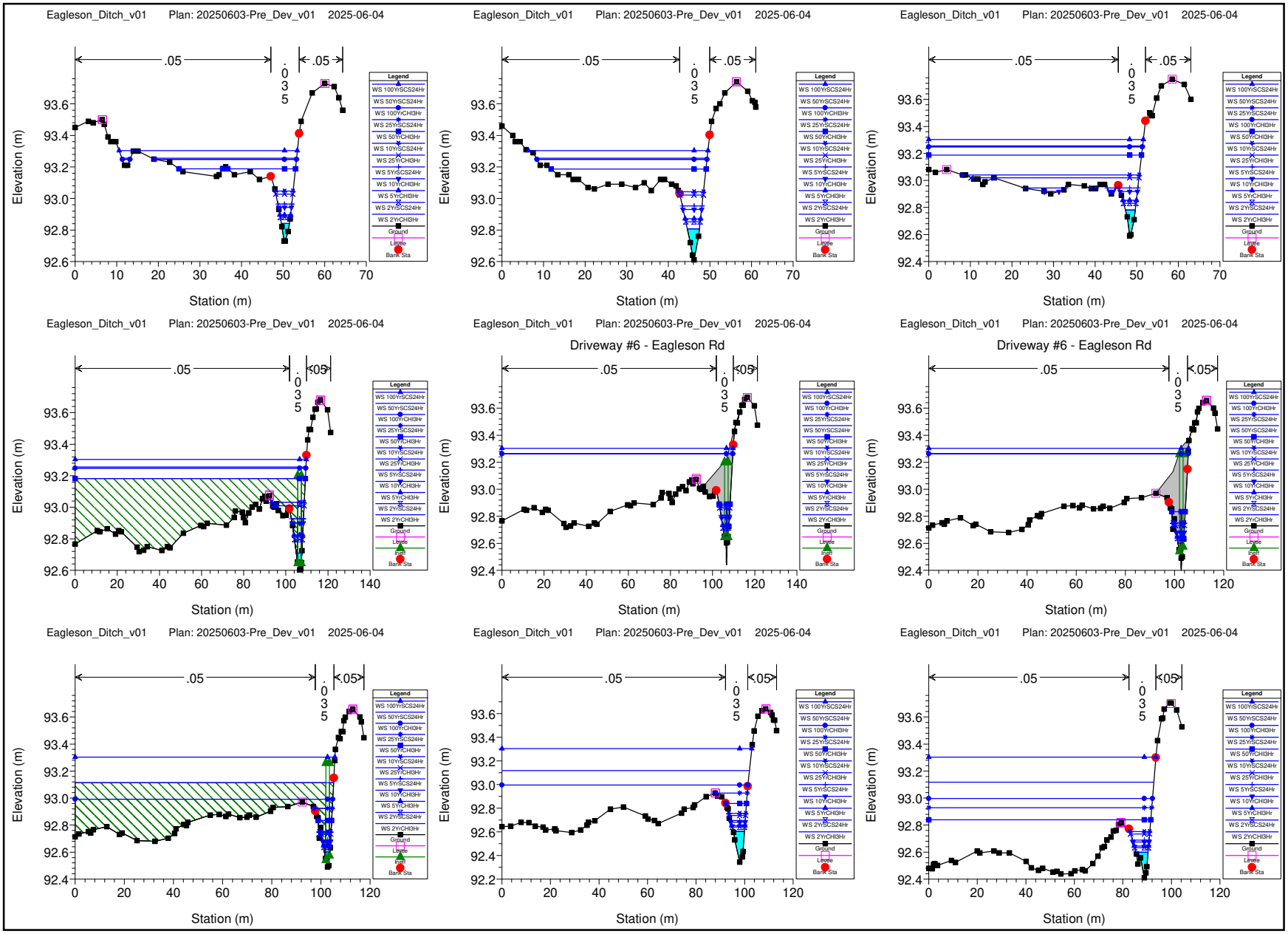
Driveway #2 - Ottawa Street

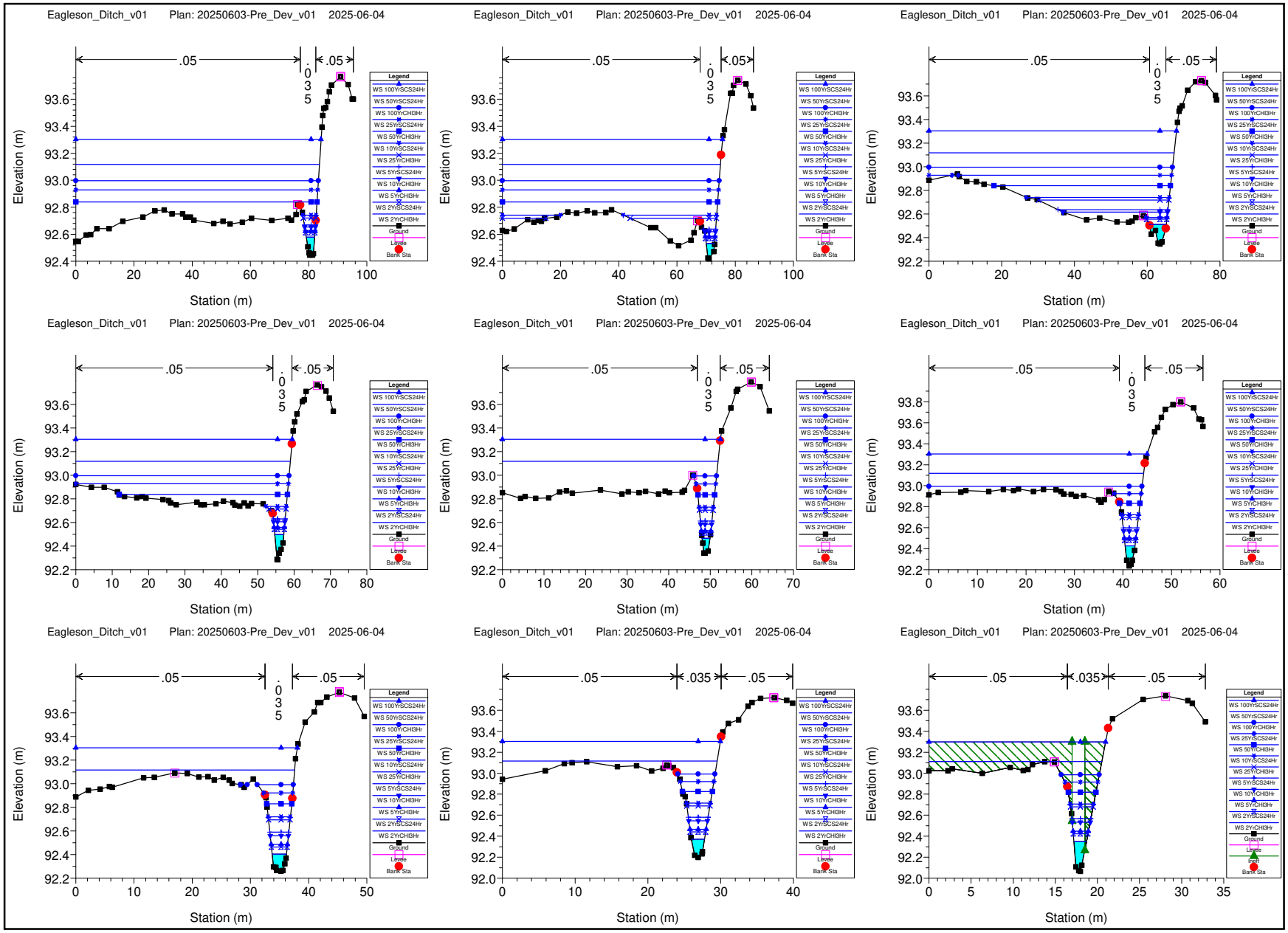
Eagleson_Ditch_v01 Plan: 20250603-Pre_Dev_v01 2025-06-04

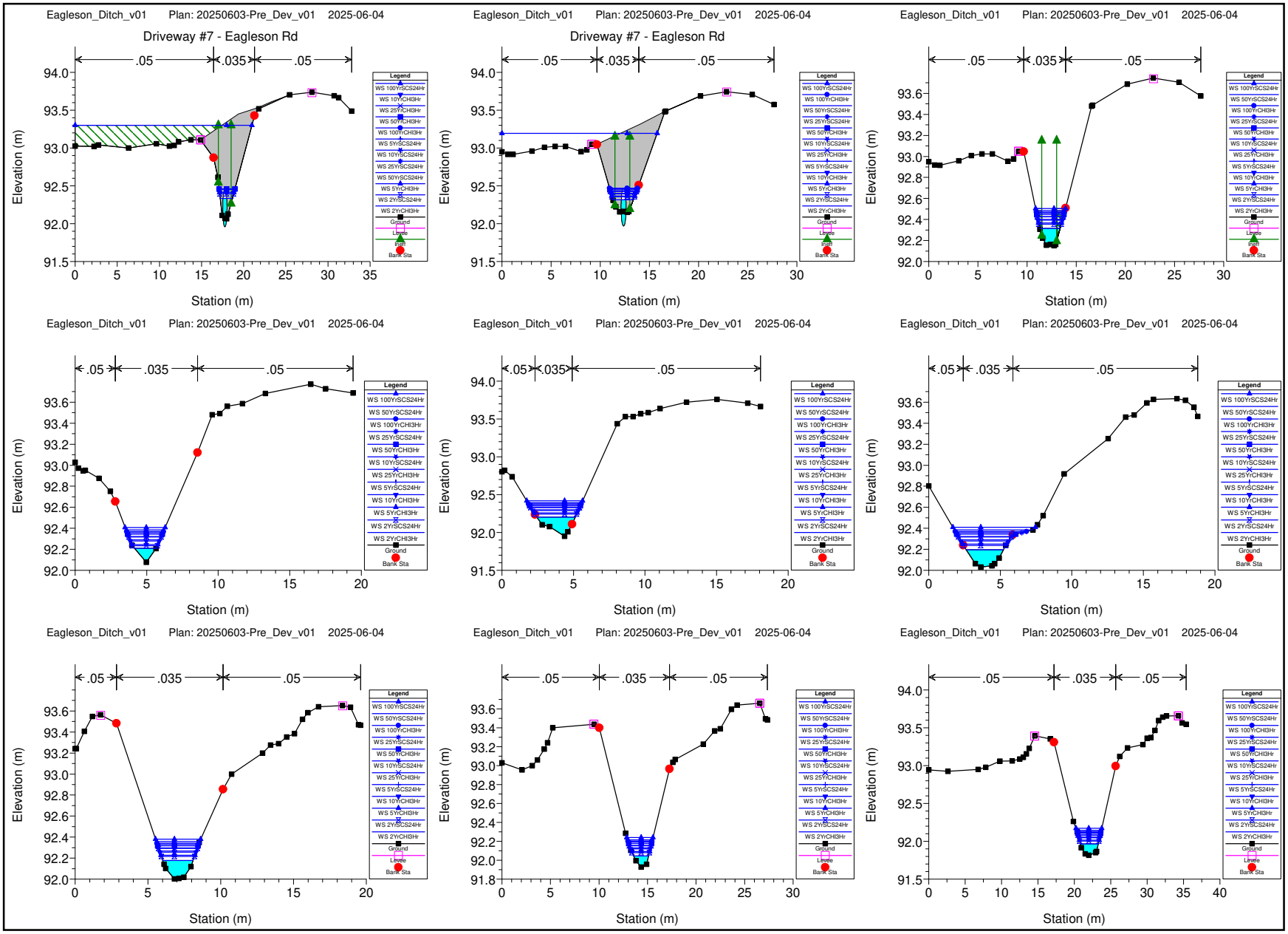
Driveway #2 - Ottawa Street

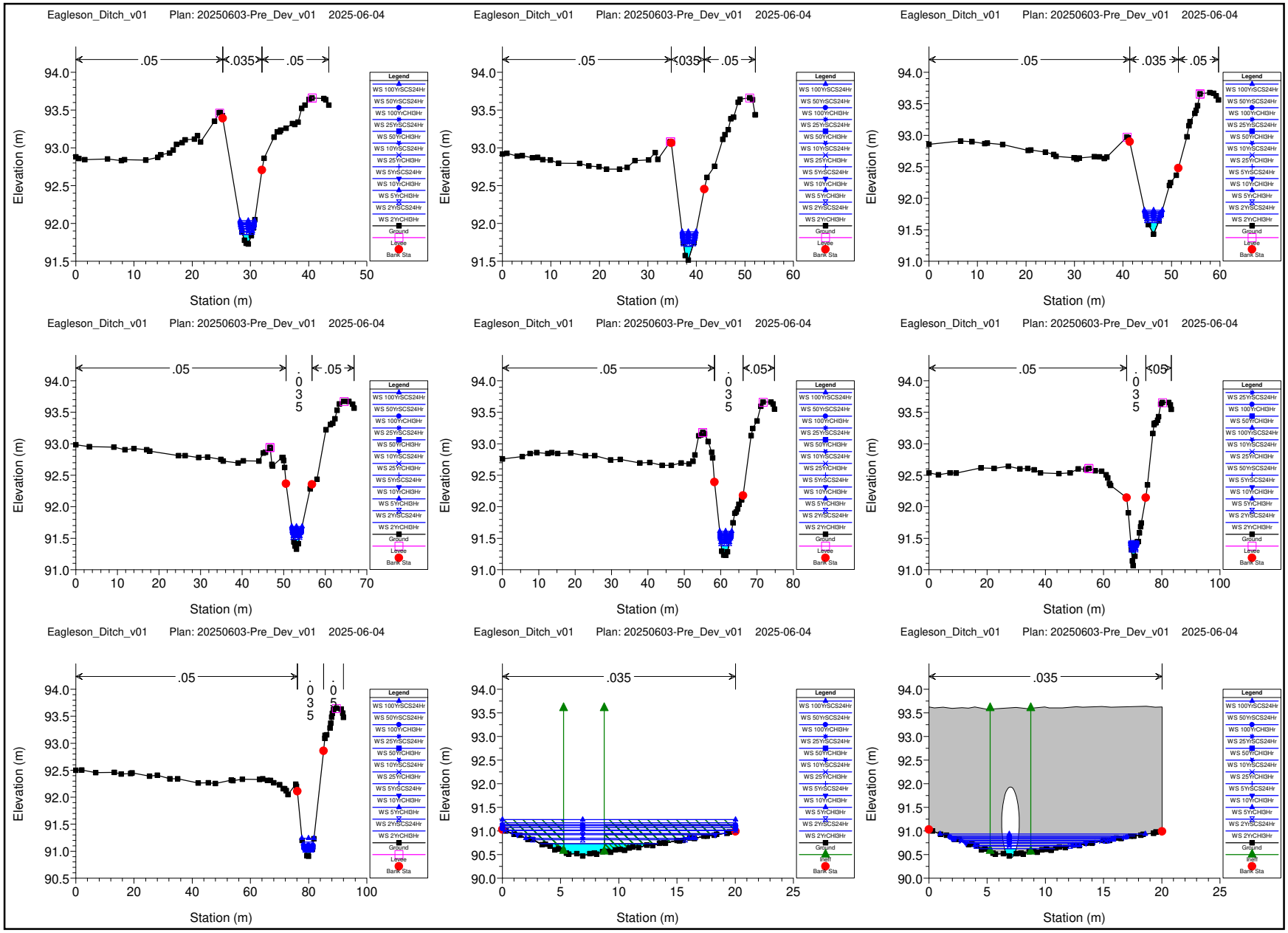

Eagleson_Ditch_v01 Plan: 20250603-Pre_Dev_v01 2025-06-04
.05
.035
.05
Elevation (m)
Station (m)
Legend
WS 100YrSCS24Hr
WS 50YrSCS24Hr
WS 100YrCHI3Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 5YrSCS24Hr
WS 10YrCHI3Hr
WS 5YrCHI3Hr
WS 2YrSCS24Hr
WS 2YrCHI3Hr
Ground
Levee
Bank Sta
Driveway #3 - Ottawa Street
Driveway #4 - Ottawa Street


Eagleson_Ditch_v01 Plan: 20250603-Pre_Dev_v01 2025-06-04
.05
.035
.05
Elevation (m)
Station (m)
Legend
WS 100YrSCS24Hr
WS 50YrSCS24Hr
WS 100YrCHI3Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 5YrSCS24Hr
WS 10YrCHI3Hr
WS 5YrCHI3Hr
WS 2YrSCS24Hr
WS 2YrCHI3Hr
Ground
Levee
Bank Sta
Driveway #5 - Eagleson Rd


Eagleson_Ditch_v01 Plan: 20250603-Pre_Dev_v01 2025-06-04
Driveway #6 - Eagleson Rd
Elevation (m)
Station (m)
.05
.035
Legend
WS 100YrSCS24Hr
WS 50YrSCS24Hr
WS 100YrCHI3Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 5YrSCS24Hr
WS 10YrCHI3Hr
WS 5YrCHI3Hr
WS 2YrSCS24Hr
WS 2YrCHI3Hr
Ground
Levee
Bank Sta


Eagleson_Ditch_v01 Plan: 20250603-Pre_Dev_v01 2025-06-04
Elevation (m)
Station (m)
.05
.035
Legend
Ground
Levee
Bank Sta


Eagleson_Ditch_v01 Plan: 20250603-Pre_Dev_v01 2025-06-04
Driveway #7 - Eagleson Rd
.05
.035
.05
Elevation (m)
Station (m)
Legend
WS 100YrSCS24Hr
WS 100YrCHI3Hr
WS 25YrCHI3Hr
WS 50YrCHI3Hr
WS 100YrCHI3Hr
WS 5YrSCS24Hr
WS 10YrSCS24Hr
WS 2YrSCS24Hr
WS 2YrCHI3Hr
Ground
Levee
Bank Sta



Eagleson_Ditch_v01 Plan: 20250603-Pre_Dev_v01 2025-06-04

Eagleson_Ditch_v01 Plan: 20250603-Pre_Dev_v01 2025-06-04

Eagleson_Ditch_v01 Plan: 20250603-Pre_Dev_v01 2025-06-04

Eagleson_Ditch_v01 Plan: 20250603-Pre_Dev_v01 2025-06-04

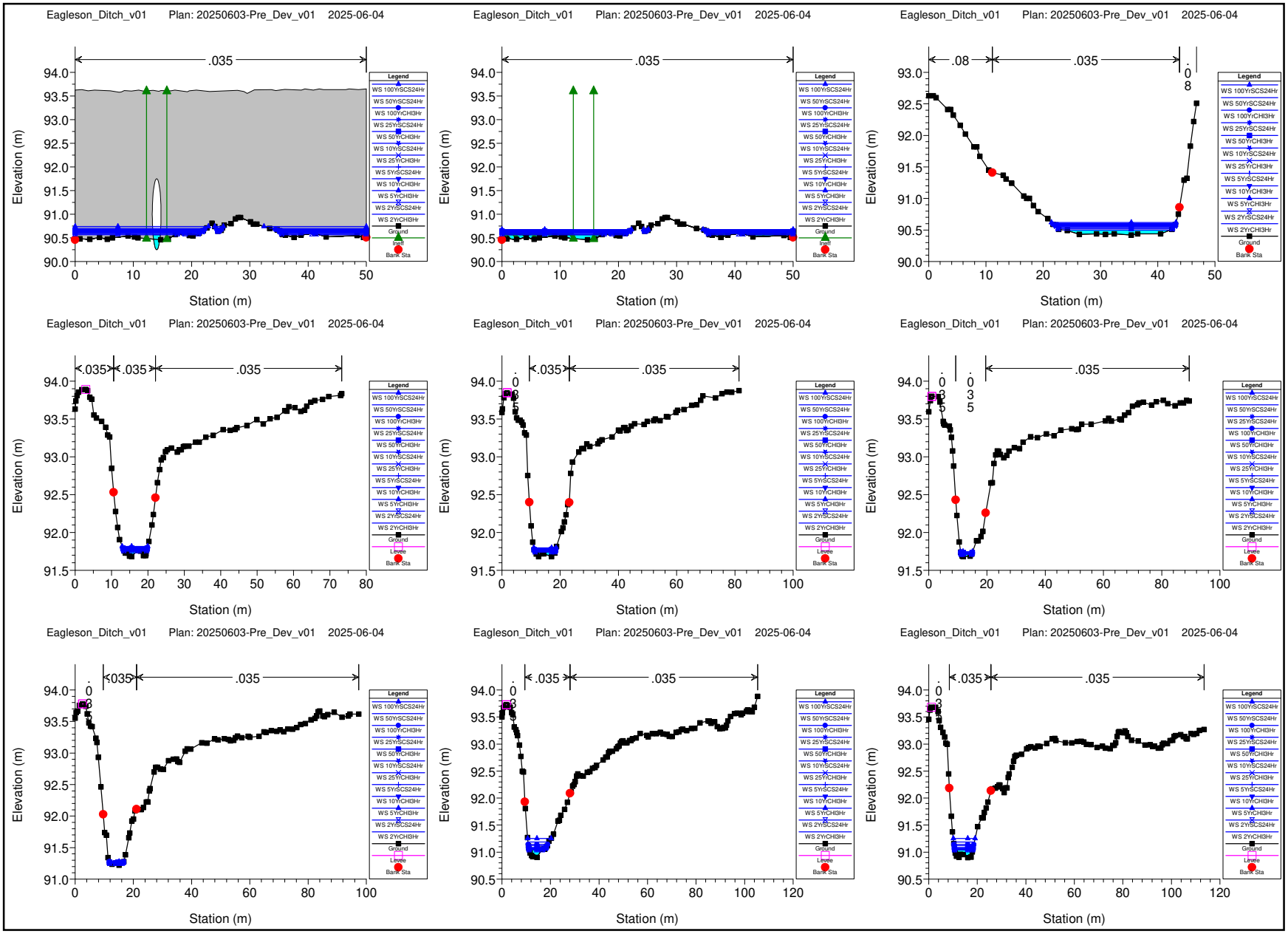
Eagleson_Ditch_v01 Plan: 20250603-Pre_Dev_v01 2025-06-04

Eagleson_Ditch_v01 Plan: 20250603-Pre_Dev_v01 2025-06-04

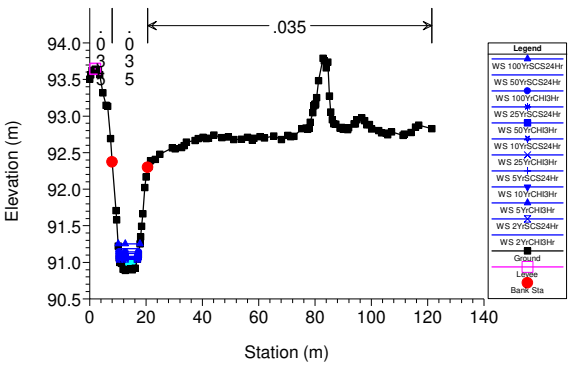
Eagleson_Ditch_v01 Plan: 20250603-Pre_Dev_v01 2025-06-04

Eagleson_Ditch_v01 Plan: 20250603-Pre_Dev_v01 2025-06-04

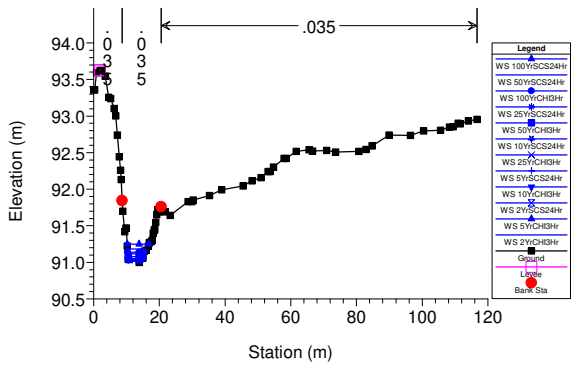
Eagleson_Ditch_v01 Plan: 20250603-Pre_Dev_v01 2025-06-04


Eagleson_Ditch_v01 Plan: 20250603-Pre_Dev_v01 2025-06-04
.035
.08
Elevation (m)
Station (m)
Legend
WS 100YrSCS24Hr
WS 50YrSCS24Hr
WS 100YrCHI3Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 5YrSCS24Hr
WS 10YrCHI3Hr
WS 5YrCHI3Hr
WS 2YrSCS24Hr
WS 2YrCHI3Hr
Ground
Levee
Bank Sta

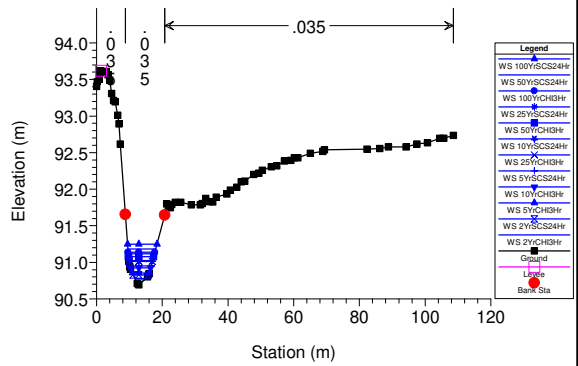
Eagleson_Ditch_v01 Plan: 20250603-Pre_Dev_v01 2025-06-04



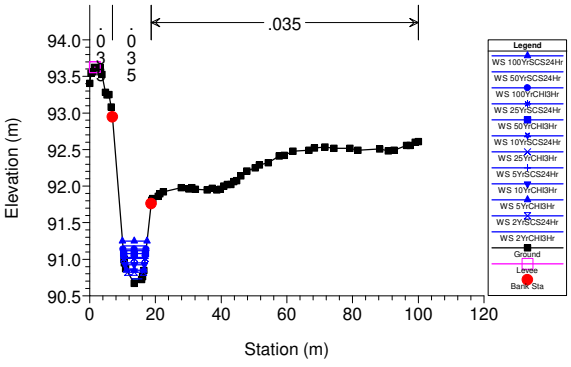
Eagleson_Ditch_v01 Plan: 20250603-Pre_Dev_v01 2025-06-04



Eagleson_Ditch_v01 Plan: 20250603-Pre_Dev_v01 2025-06-04



Eagleson_Ditch_v01 Plan: 20250603-Pre_Dev_v01 2025-06-04



HEC-RAS Plan: 20250603-Pre_Dev_v01

River	Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
River 2	Reach 2	224	2YrCHl3Hr	0.02	91.68	91.75	91.71	91.75	0.000626	0.08	0.20	5.09	0.13
River 2	Reach 2	224	5YrCHl3Hr	0.03	91.68	91.76	91.72	91.76	0.000730	0.10	0.26	5.99	0.15
River 2	Reach 2	224	10YrCHl3Hr	0.03	91.68	91.77	91.72	91.77	0.000742	0.11	0.32	6.48	0.15
River 2	Reach 2	224	25YrCHl3Hr	0.05	91.68	91.78	91.73	91.79	0.000756	0.12	0.39	6.61	0.16
River 2	Reach 2	224	50YrCHl3Hr	0.06	91.68	91.79	91.73	91.79	0.000763	0.13	0.44	6.71	0.16
River 2	Reach 2	224	100YrCHl3Hr	0.07	91.68	91.80	91.74	91.80	0.000773	0.14	0.50	6.81	0.16
River 2	Reach 2	224	2YrSCS24Hr	0.02	91.68	91.76	91.72	91.76	0.000717	0.09	0.25	5.79	0.14
River 2	Reach 2	224	5YrSCS24Hr	0.04	91.68	91.78	91.73	91.78	0.000753	0.11	0.35	6.53	0.15
River 2	Reach 2	224	10YrSCS24Hr	0.05	91.68	91.79	91.73	91.79	0.000757	0.12	0.41	6.65	0.16
River 2	Reach 2	224	25YrSCS24Hr	0.07	91.68	91.80	91.74	91.80	0.000769	0.14	0.48	6.78	0.16
River 2	Reach 2	224	50YrSCS24Hr	0.08	91.68	91.81	91.74	91.81	0.000794	0.15	0.54	6.88	0.17
River 2	Reach 2	224	100YrSCS24Hr	0.09	91.68	91.81	91.75	91.82	0.000800	0.16	0.60	6.99	0.17
River 2	Reach 2	199	2YrCHl3Hr	0.02	91.68	91.74	91.71	91.74	0.000450	0.07	0.24	6.76	0.11
River 2	Reach 2	199	5YrCHl3Hr	0.03	91.68	91.75	91.71	91.75	0.000479	0.08	0.31	6.96	0.12
River 2	Reach 2	199	10YrCHl3Hr	0.03	91.68	91.76	91.71	91.76	0.000481	0.09	0.38	7.14	0.12
River 2	Reach 2	199	25YrCHl3Hr	0.05	91.68	91.77	91.72	91.77	0.000549	0.10	0.45	7.32	0.13
River 2	Reach 2	199	50YrCHl3Hr	0.06	91.68	91.78	91.72	91.78	0.000569	0.11	0.50	7.42	0.14
River 2	Reach 2	199	100YrCHl3Hr	0.07	91.68	91.78	91.73	91.78	0.000591	0.12	0.56	7.51	0.14
River 2	Reach 2	199	2YrSCS24Hr	0.02	91.68	91.75	91.71	91.75	0.000474	0.08	0.30	6.91	0.12
River 2	Reach 2	199	5YrSCS24Hr	0.04	91.68	91.76	91.72	91.76	0.000522	0.10	0.41	7.20	0.13
River 2	Reach 2	199	10YrSCS24Hr	0.05	91.68	91.77	91.72	91.77	0.000558	0.11	0.47	7.37	0.14
River 2	Reach 2	199	25YrSCS24Hr	0.07	91.68	91.78	91.72	91.78	0.000582	0.12	0.55	7.49	0.14
River 2	Reach 2	199	50YrSCS24Hr	0.08	91.68	91.79	91.73	91.79	0.000628	0.13	0.60	7.57	0.15
River 2	Reach 2	199	100YrSCS24Hr	0.09	91.68	91.80	91.73	91.80	0.000634	0.14	0.66	7.67	0.15
River 2	Reach 2	174	2YrCHl3Hr	0.02	91.68	91.71	91.70	91.71	0.009341	0.22	0.07	3.33	0.47
River 2	Reach 2	174	5YrCHl3Hr	0.03	91.68	91.71	91.70	91.72	0.010728	0.27	0.09	3.51	0.52
River 2	Reach 2	174	10YrCHl3Hr	0.03	91.68	91.72	91.71	91.73	0.009147	0.28	0.12	3.68	0.49
River 2	Reach 2	174	25YrCHl3Hr	0.05	91.68	91.73	91.72	91.73	0.010482	0.33	0.14	3.80	0.54
River 2	Reach 2	174	50YrCHl3Hr	0.06	91.68	91.73	91.72	91.74	0.010789	0.35	0.16	3.90	0.56
River 2	Reach 2	174	100YrCHl3Hr	0.07	91.68	91.74	91.72	91.75	0.011338	0.38	0.18	3.99	0.58
River 2	Reach 2	174	2YrSCS24Hr	0.02	91.68	91.71	91.70	91.72	0.009099	0.24	0.09	3.51	0.48
River 2	Reach 2	174	5YrSCS24Hr	0.04	91.68	91.73	91.71	91.73	0.009102	0.29	0.13	3.75	0.50
River 2	Reach 2	174	10YrSCS24Hr	0.05	91.68	91.73	91.72	91.74	0.010830	0.34	0.15	3.84	0.55
River 2	Reach 2	174	25YrSCS24Hr	0.07	91.68	91.74	91.72	91.74	0.010024	0.36	0.18	4.01	0.55
River 2	Reach 2	174	50YrSCS24Hr	0.08	91.68	91.74	91.73	91.75	0.010794	0.40	0.20	4.08	0.57
River 2	Reach 2	174	100YrSCS24Hr	0.09	91.68	91.75	91.73	91.76	0.010716	0.42	0.22	4.15	0.58
River 2	Reach 2	149	2YrCHl3Hr	0.02	91.22	91.25	91.25	91.26	0.049600	0.35	0.05	3.45	0.99
River 2	Reach 2	149	5YrCHl3Hr	0.03	91.22	91.26	91.26	91.27	0.037267	0.35	0.07	4.39	0.89
River 2	Reach 2	149	10YrCHl3Hr	0.03	91.22	91.26	91.26	91.27	0.052915	0.44	0.08	4.47	1.07
River 2	Reach 2	149	25YrCHl3Hr	0.05	91.22	91.27	91.27	91.28	0.039832	0.45	0.10	4.68	0.97
River 2	Reach 2	149	50YrCHl3Hr	0.06	91.22	91.27	91.27	91.28	0.037244	0.47	0.12	4.80	0.95
River 2	Reach 2	149	100YrCHl3Hr	0.07	91.22	91.27	91.27	91.29	0.034157	0.49	0.14	4.94	0.93
River 2	Reach 2	149	2YrSCS24Hr	0.02	91.22	91.26	91.26	91.26	0.052399	0.39	0.06	3.96	1.03
River 2	Reach 2	149	5YrSCS24Hr	0.04	91.22	91.26	91.26	91.27	0.052134	0.46	0.08	4.53	1.07
River 2	Reach 2	149	10YrSCS24Hr	0.05	91.22	91.27	91.27	91.28	0.037535	0.46	0.11	4.74	0.95
River 2	Reach 2	149	25YrSCS24Hr	0.07	91.22	91.27	91.27	91.29	0.044620	0.53	0.13	4.83	1.05
River 2	Reach 2	149	50YrSCS24Hr	0.08	91.22	91.28	91.28	91.29	0.037650	0.53	0.15	5.00	0.98
River 2	Reach 2	149	100YrSCS24Hr	0.09	91.22	91.28	91.28	91.30	0.038788	0.57	0.16	5.05	1.01
River 2	Reach 2	124	2YrCHl3Hr	0.02	90.90	91.04	90.93	91.04	0.000032	0.03	0.48	5.07	0.03
River 2	Reach 2	124	5YrCHl3Hr	0.03	90.90	91.05	90.93	91.05	0.000060	0.05	0.53	5.26	0.05
River 2	Reach 2	124	10YrCHl3Hr	0.03	90.90	91.06	90.94	91.06	0.000112	0.06	0.57	6.50	0.06
River 2	Reach 2	124	25YrCHl3Hr	0.05	90.90	91.07	90.95	91.07	0.000154	0.07	0.64	6.76	0.08
River 2	Reach 2	124	50YrCHl3Hr	0.06	90.90	91.09	90.95	91.09	0.000135	0.07	0.76	7.17	0.07
River 2	Reach 2	124	100YrCHl3Hr	0.07	90.90	91.14	90.95	91.14	0.000050	0.06	1.21	8.10	0.05
River 2	Reach 2	124	2YrSCS24Hr	0.02	90.90	91.05	90.93	91.05	0.000054	0.04	0.51	5.22	0.05
River 2	Reach 2	124	5YrSCS24Hr	0.04	90.90	91.06	90.94	91.06	0.000129	0.07	0.60	6.60	0.07
River 2	Reach 2	124	10YrSCS24Hr	0.05	90.90	91.07	90.95	91.07	0.000166	0.08	0.66	6.83	0.08
River 2	Reach 2	124	25YrSCS24Hr	0.07	90.90	91.12	90.95	91.12	0.000074	0.06	1.04	7.89	0.06
River 2	Reach 2	124	50YrSCS24Hr	0.08	90.90	91.19	90.96	91.19	0.000031	0.05	1.55	8.50	0.04
River 2	Reach 2	124	100YrSCS24Hr	0.09	90.90	91.25	90.96	91.25	0.000017	0.04	2.15	9.67	0.03
River 2	Reach 2	99	2YrCHl3Hr	0.02	90.90	91.04	90.92	91.04	0.000010	0.02	0.80	7.44	0.02
River 2	Reach 2	99	5YrCHl3Hr	0.03	90.90	91.05	90.92	91.05	0.000018	0.03	0.87	7.51	0.03
River 2	Reach 2	99	10YrCHl3Hr	0.03	90.90	91.06	90.93	91.06	0.000027	0.04	0.93	7.57	0.03
River 2	Reach 2	99	25YrCHl3Hr	0.05	90.90	91.07	90.93	91.07	0.000041	0.05	1.00	7.64	0.04
River 2	Reach 2	99	50YrCHl3Hr	0.06	90.90	91.09	90.94	91.09	0.000040	0.05	1.14	7.79	0.04
River 2	Reach 2	99	100YrCHl3Hr	0.07	90.90	91.14	90.94	91.14	0.000020	0.04	1.61	8.25	0.03
River 2	Reach 2	99	2YrSCS24Hr	0.02	90.90	91.05	90.92	91.05	0.000016	0.03	0.86	7.49	0.03
River 2	Reach 2	99	5YrSCS24Hr	0.04	90.90	91.06	90.93	91.06	0.000032	0.04	0.96	7.60	0.04
River 2	Reach 2	99	10YrSCS24Hr	0.05	90.90	91.07	90.94	91.07	0.000045	0.05	1.02	7.67	0.04
River 2	Reach 2	99	25YrSCS24Hr	0.07	90.90	91.12	90.94	91.12	0.000026	0.05	1.43	8.07	0.03
River 2	Reach 2	99	50YrSCS24Hr	0.08	90.90	91.19	90.94	91.19	0.000014	0.04	1.96	8.55	0.03
River 2	Reach 2	99	100YrSCS24Hr	0.09	90.90	91.25	90.95	91.25	0.000009	0.04	2.54	9.03	0.02
River 2	Reach 2	74	2YrCHl3Hr	0.02	90.89	91.04	90.91	91.04	0.000011	0.02	0.72	6.36	0.02
River 2	Reach 2	74	5YrCHl3Hr	0.03	90.89	91.05	90.92	91.05	0.000021	0.03	0.78	6.44	0.03
River 2	Reach 2	74	10YrCHl3Hr	0.03	90.89	91.06	90.92	91.06	0.000033	0.04	0.83	6.50	0.04
River 2	Reach 2	74	25YrCHl3Hr	0.05	90.89	91.07	90.93	91.07	0.000050	0.05	0.89	6.57	0.05
River 2	Reach 2	74	50YrCHl3Hr	0.06	90.89	91.08	90.93	91.08	0.000049	0.06	1.01	6.70	0.05
River 2	Reach 2	74	100YrCHl3Hr	0.07	90.89	91.14	90.93	91.14	0.000025	0.05	1.42	7.09	0.03
River 2	Reach 2	74	2YrSCS24Hr	0.02	90.89	91.05	90.92	91.05	0.000019	0.03	0.77	6.42	0.03
River 2	Reach 2	74	5YrSCS24Hr	0.04	90.89	91.06	90.92	91.06	0.000039	0.05	0.85	6.53	0.04
River 2	Reach 2	74	10YrSCS24Hr	0.05	90.89	91.07	90.93	91.07	0.000055	0.06	0.91	6.59	0.05
River 2	Reach 2	74	25YrSCS24Hr	0.07	90.89	91.12	90.93	91.12	0.000033	0.05	1.26	6.96	0.04
River 2	Reach 2	74	50YrSCS24Hr	0.08	90.89	91.18	90.93	91.18	0.000018	0.05	1.72	7.34	0.03
River 2	Reach 2	74	100YrSCS24Hr	0.09	90.89	91.25	90.94	91.25	0.000012	0.04	2.22	7.71	0.03

HEC-RAS Plan: 20250603-Pre_Dev_v01 (Continued)

River	Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
River 2	Reach 2	49	2YrCHI3Hr	0.02	91.00	91.03	91.03	91.04	0.048683	0.40	0.04	2.56	1.01
River 2	Reach 2	49	5YrCHI3Hr	0.03	91.00	91.04	91.04	91.05	0.045843	0.43	0.06	3.06	1.01
River 2	Reach 2	49	10YrCHI3Hr	0.03	91.00	91.04	91.04	91.05	0.036151	0.43	0.08	3.50	0.92
River 2	Reach 2	49	25YrCHI3Hr	0.05	91.00	91.05	91.05	91.06	0.042954	0.52	0.09	3.52	1.03
River 2	Reach 2	49	50YrCHI3Hr	0.06	91.00	91.08	91.05	91.08	0.005537	0.28	0.20	4.07	0.41
River 2	Reach 2	49	100YrCHI3Hr	0.07	91.00	91.14	91.05	91.14	0.000508	0.14	0.50	4.96	0.14
River 2	Reach 2	49	2YrSCS24Hr	0.02	91.00	91.04	91.04	91.04	0.038802	0.40	0.06	3.06	0.93
River 2	Reach 2	49	5YrSCS24Hr	0.04	91.00	91.04	91.04	91.06	0.043713	0.48	0.08	3.50	1.02
River 2	Reach 2	49	10YrSCS24Hr	0.05	91.00	91.05	91.05	91.06	0.037160	0.51	0.10	3.53	0.97
River 2	Reach 2	49	25YrSCS24Hr	0.07	91.00	91.12	91.05	91.12	0.001066	0.17	0.38	4.82	0.19
River 2	Reach 2	49	50YrSCS24Hr	0.08	91.00	91.18	91.06	91.18	0.000237	0.11	0.73	5.93	0.10
River 2	Reach 2	49	100YrSCS24Hr	0.09	91.00	91.25	91.06	91.25	0.000083	0.08	1.15	6.63	0.06
River 2	Reach 2	28	2YrCHI3Hr	0.02	90.69	90.78	90.74	90.78	0.001301	0.13	0.15	3.26	0.20
River 2	Reach 2	28	5YrCHI3Hr	0.03	90.69	90.85	90.75	90.85	0.000163	0.07	0.47	5.17	0.08
River 2	Reach 2	28	10YrCHI3Hr	0.05	90.69	90.93	90.75	90.93	0.000046	0.05	0.89	6.29	0.04
River 2	Reach 2	28	25YrCHI3Hr	0.06	90.69	91.01	90.76	91.01	0.000019	0.04	1.48	7.14	0.03
River 2	Reach 2	28	50YrCHI3Hr	0.08	90.69	91.08	90.77	91.08	0.000012	0.04	1.96	7.68	0.03
River 2	Reach 2	28	100YrCHI3Hr	0.09	90.69	91.14	90.78	91.14	0.000009	0.04	2.47	8.16	0.02
River 2	Reach 2	28	2YrSCS24Hr	0.03	90.69	90.83	90.74	90.83	0.000330	0.09	0.35	4.66	0.11
River 2	Reach 2	28	5YrSCS24Hr	0.05	90.69	90.95	90.76	90.95	0.000036	0.05	1.07	6.57	0.04
River 2	Reach 2	28	10YrSCS24Hr	0.07	90.69	91.03	90.76	91.03	0.000019	0.04	1.58	7.26	0.03
River 2	Reach 2	28	25YrSCS24Hr	0.09	90.69	91.12	90.78	91.12	0.000011	0.04	2.28	7.99	0.02
River 2	Reach 2	28	50YrSCS24Hr	0.11	90.69	91.18	90.78	91.18	0.000008	0.04	2.82	8.48	0.02
River 2	Reach 2	28	100YrSCS24Hr	0.13	90.69	91.25	90.79	91.25	0.000007	0.04	3.40	8.98	0.02
River 2	Reach 2	7	2YrCHI3Hr	0.02	90.67	90.73	90.71	90.74	0.003117	0.17	0.11	3.14	0.29
River 2	Reach 2	7	5YrCHI3Hr	0.03	90.67	90.85	90.72	90.85	0.000075	0.06	0.60	5.18	0.05
River 2	Reach 2	7	10YrCHI3Hr	0.05	90.67	90.92	90.73	90.92	0.000028	0.05	1.02	5.92	0.04
River 2	Reach 2	7	25YrCHI3Hr	0.06	90.67	91.01	90.73	91.01	0.000014	0.04	1.56	6.43	0.03
River 2	Reach 2	7	50YrCHI3Hr	0.08	90.67	91.08	90.74	91.08	0.000010	0.04	1.99	6.71	0.02
River 2	Reach 2	7	100YrCHI3Hr	0.09	90.67	91.14	90.74	91.14	0.000008	0.04	2.42	6.98	0.02
River 2	Reach 2	7	2YrSCS24Hr	0.03	90.67	90.82	90.72	90.82	0.000130	0.07	0.46	4.72	0.07
River 2	Reach 2	7	5YrSCS24Hr	0.05	90.67	90.95	90.73	90.95	0.000023	0.05	1.18	6.12	0.03
River 2	Reach 2	7	10YrSCS24Hr	0.07	90.67	91.03	90.73	91.03	0.000014	0.04	1.65	6.49	0.03
River 2	Reach 2	7	25YrSCS24Hr	0.09	90.67	91.12	90.74	91.12	0.000009	0.04	2.26	6.88	0.02
River 2	Reach 2	7	50YrSCS24Hr	0.11	90.67	91.18	90.75	91.18	0.000007	0.04	2.72	7.15	0.02
River 2	Reach 2	7	100YrSCS24Hr	0.13	90.67	91.25	90.75	91.25	0.000006	0.04	3.21	7.44	0.02
River 1	Reach 1-Upper	908	2YrCHI3Hr	0.02	94.14	94.22	94.18	94.22	0.001587	0.14	0.10	2.34	0.22
River 1	Reach 1-Upper	908	5YrCHI3Hr	0.03	94.14	94.23	94.19	94.23	0.001806	0.18	0.15	2.64	0.24
River 1	Reach 1-Upper	908	10YrCHI3Hr	0.03	94.14	94.24	94.20	94.24	0.002004	0.20	0.17	2.81	0.26
River 1	Reach 1-Upper	908	25YrCHI3Hr	0.05	94.14	94.25	94.20	94.26	0.002189	0.22	0.21	3.02	0.27
River 1	Reach 1-Upper	908	50YrCHI3Hr	0.06	94.14	94.26	94.21	94.27	0.002278	0.24	0.24	3.18	0.28
River 1	Reach 1-Upper	908	100YrCHI3Hr	0.07	94.14	94.27	94.21	94.27	0.002320	0.25	0.26	3.32	0.29
River 1	Reach 1-Upper	908	2YrSCS24Hr	0.02	94.14	94.23	94.19	94.23	0.001752	0.17	0.14	2.59	0.23
River 1	Reach 1-Upper	908	5YrSCS24Hr	0.04	94.14	94.25	94.20	94.25	0.002058	0.21	0.18	2.87	0.26
River 1	Reach 1-Upper	908	10YrSCS24Hr	0.05	94.14	94.26	94.20	94.26	0.002199	0.23	0.22	3.05	0.27
River 1	Reach 1-Upper	908	25YrSCS24Hr	0.06	94.14	94.27	94.21	94.27	0.002241	0.25	0.25	3.26	0.28
River 1	Reach 1-Upper	908	50YrSCS24Hr	0.07	94.14	94.28	94.22	94.28	0.002406	0.26	0.28	3.39	0.29
River 1	Reach 1-Upper	908	100YrSCS24Hr	0.08	94.14	94.29	94.22	94.29	0.002029	0.26	0.33	3.64	0.27
River 1	Reach 1-Upper	887	2YrCHI3Hr	0.02	94.10	94.15	94.14	94.16	0.007507	0.23	0.07	2.30	0.44
River 1	Reach 1-Upper	887	5YrCHI3Hr	0.03	94.10	94.17	94.15	94.17	0.005953	0.25	0.10	2.78	0.41
River 1	Reach 1-Upper	887	10YrCHI3Hr	0.03	94.10	94.18	94.15	94.18	0.005054	0.26	0.14	3.08	0.39
River 1	Reach 1-Upper	887	25YrCHI3Hr	0.05	94.10	94.19	94.16	94.20	0.004392	0.26	0.18	3.42	0.37
River 1	Reach 1-Upper	887	50YrCHI3Hr	0.06	94.10	94.20	94.17	94.20	0.004802	0.29	0.20	3.57	0.39
River 1	Reach 1-Upper	887	100YrCHI3Hr	0.07	94.10	94.21	94.17	94.21	0.004705	0.30	0.22	3.76	0.39
River 1	Reach 1-Upper	887	2YrSCS24Hr	0.02	94.10	94.17	94.15	94.17	0.006295	0.25	0.10	2.71	0.42
River 1	Reach 1-Upper	887	5YrSCS24Hr	0.04	94.10	94.18	94.15	94.19	0.004885	0.26	0.15	3.16	0.38
River 1	Reach 1-Upper	887	10YrSCS24Hr	0.05	94.10	94.19	94.16	94.20	0.004587	0.27	0.18	3.44	0.38
River 1	Reach 1-Upper	887	25YrSCS24Hr	0.06	94.10	94.20	94.17	94.20	0.005786	0.31	0.20	3.56	0.43
River 1	Reach 1-Upper	887	50YrSCS24Hr	0.07	94.10	94.21	94.17	94.22	0.003925	0.29	0.25	3.98	0.36
River 1	Reach 1-Upper	887	100YrSCS24Hr	0.08	94.10	94.19	94.18	94.20	0.014690	0.48	0.18	3.39	0.67
River 1	Reach 1-Upper	868	2YrCHI3Hr	0.02	93.96	94.02	94.01	94.03	0.006049	0.24	0.06	1.78	0.41
River 1	Reach 1-Upper	868	5YrCHI3Hr	0.03	93.96	94.04	94.01	94.04	0.007801	0.31	0.08	1.98	0.48
River 1	Reach 1-Upper	868	10YrCHI3Hr	0.03	93.96	94.04	94.02	94.05	0.010621	0.37	0.09	2.05	0.56
River 1	Reach 1-Upper	868	25YrCHI3Hr	0.05	93.96	94.05	94.03	94.06	0.013422	0.44	0.11	2.15	0.64
River 1	Reach 1-Upper	868	50YrCHI3Hr	0.06	93.96	94.06	94.04	94.07	0.010577	0.43	0.13	2.35	0.58
River 1	Reach 1-Upper	868	100YrCHI3Hr	0.07	93.96	94.06	94.04	94.07	0.010976	0.46	0.15	2.45	0.60
River 1	Reach 1-Upper	868	2YrSCS24Hr	0.02	93.96	94.03	94.01	94.04	0.007224	0.29	0.08	1.96	0.46
River 1	Reach 1-Upper	868	5YrSCS24Hr	0.04	93.96	94.04	94.02	94.05	0.011359	0.39	0.10	2.08	0.58
River 1	Reach 1-Upper	868	10YrSCS24Hr	0.05	93.96	94.05	94.03	94.06	0.012976	0.44	0.11	2.19	0.63
River 1	Reach 1-Upper	868	25YrSCS24Hr	0.06	93.96	94.07	94.04	94.08	0.007363	0.39	0.16	2.55	0.49
River 1	Reach 1-Upper	868	50YrSCS24Hr	0.07	93.96	94.06	94.05	94.07	0.019525	0.57	0.13	2.31	0.78
River 1	Reach 1-Upper	868	100YrSCS24Hr	0.08	93.96	94.14	94.05	94.15	0.001168	0.21	0.40	3.98	0.21
River 1	Reach 1-Upper	848	2YrCHI3Hr	0.02	93.87	93.92	93.90	93.92	0.004686	0.19	0.08	2.57	0.35
River 1	Reach 1-Upper	848	5YrCHI3Hr	0.03	93.87	93.93	93.91	93.94	0.003787	0.21	0.12	2.98	0.33
River 1	Reach 1-Upper	848	10YrCHI3Hr	0.03	93.87	93.95	93.92	93.95	0.002708	0.21	0.17	3.15	0.29
River 1	Reach 1-Upper	848	25YrCHI3Hr	0.05	93.87	93.97	93.92	93.97	0.002043	0.21	0.22	3.34	0.26
River 1	Reach 1-Upper	848	50YrCHI3Hr	0.06	93.87	93.97	93.93	93.97	0.002676	0.25	0.23	3.37	0.30
River 1	Reach 1-Upper	848	100YrCHI3Hr	0.07	93.87	93.98	93.93	93.98	0.002517	0.26	0.26	3.47	0.30
River 1	Reach 1-Upper	848	2YrSCS24Hr	0.02	93.87	93.93	93.91	93.93	0.004188	0.21	0.11	2.93	0.34
River 1	Reach 1-Upper	848	5YrSCS24Hr	0.04	93.87	93.95	93.92	93.96	0.002536	0.21	0.18	3.19	0.28
River 1	Reach 1-Upper	848	10YrSCS24Hr	0.05	93.87	93.97	93.92	93.97	0.002100	0.22	0.23	3.35	0.27
River 1	Reach 1-Upper	848	25YrSCS24Hr	0.06	93.87	93.96	93.93	93.97	0.004423	0.30	0.21	3.29	0.38
River 1	Reach 1-Upper	848	50YrSCS24Hr	0.07	93.87	94.04	93.93	94.04	0.000430	0.15	0.50	3.98	0.13

HEC-RAS Plan: 20250603-Pre_Dev_v01 (Continued)

River	Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
River 1	Reach 1-Upper	848	100YrSCS24Hr	0.08	93.87	94.14	93.94	94.14	0.000088	0.09	0.94	4.75	0.06
River 1	Reach 1-Upper	828	2YrCHI3Hr	0.02	93.78	93.85	93.82	93.85	0.002687	0.16	0.09	2.47	0.27
River 1	Reach 1-Upper	828	5YrCHI3Hr	0.03	93.78	93.86	93.83	93.86	0.004045	0.22	0.12	2.90	0.34
River 1	Reach 1-Upper	828	10YrCHI3Hr	0.03	93.78	93.85	93.83	93.86	0.010289	0.33	0.10	2.68	0.54
River 1	Reach 1-Upper	828	25YrCHI3Hr	0.05	93.78	93.84	93.84	93.86	0.040257	0.61	0.08	2.23	1.04
River 1	Reach 1-Upper	828	50YrCHI3Hr	0.06	93.78	93.87	93.85	93.87	0.011893	0.40	0.14	3.16	0.59
River 1	Reach 1-Upper	828	100YrCHI3Hr	0.07	93.78	93.96	93.85	93.97	0.000365	0.13	0.50	4.07	0.12
River 1	Reach 1-Upper	828	2YrSCS24Hr	0.02	93.78	93.86	93.82	93.86	0.003210	0.19	0.12	2.95	0.30
River 1	Reach 1-Upper	828	5YrSCS24Hr	0.04	93.78	93.85	93.84	93.86	0.014294	0.39	0.10	2.58	0.63
River 1	Reach 1-Upper	828	10YrSCS24Hr	0.05	93.78	93.84	93.84	93.86	0.036015	0.59	0.08	2.34	0.99
River 1	Reach 1-Upper	828	25YrSCS24Hr	0.06	93.78	93.90	93.85	93.90	0.002459	0.25	0.25	3.50	0.29
River 1	Reach 1-Upper	828	50YrSCS24Hr	0.07	93.78	94.04	93.86	94.04	0.000005	0.02	5.50	35.21	0.01
River 1	Reach 1-Upper	828	100YrSCS24Hr	0.08	93.78	94.14	93.86	94.14	0.000001	0.01	9.06	35.66	0.01
River 1	Reach 1-Upper	807	2YrCHI3Hr	0.02	93.65	93.70	93.70	93.71	0.039865	0.46	0.03	1.40	0.97
River 1	Reach 1-Upper	807	5YrCHI3Hr	0.03	93.65	93.72	93.71	93.73	0.011679	0.35	0.07	1.90	0.57
River 1	Reach 1-Upper	807	10YrCHI3Hr	0.03	93.65	93.76	93.71	93.76	0.002625	0.22	0.16	2.63	0.29
River 1	Reach 1-Upper	807	25YrCHI3Hr	0.05	93.65	93.80	93.72	93.80	0.000718	0.16	0.30	3.53	0.16
River 1	Reach 1-Upper	807	50YrCHI3Hr	0.06	93.65	93.86	93.73	93.86	0.000227	0.12	0.51	4.43	0.10
River 1	Reach 1-Upper	807	100YrCHI3Hr	0.07	93.65	93.96	93.73	93.96	0.000003	0.02	5.71	34.82	0.01
River 1	Reach 1-Upper	807	2YrSCS24Hr	0.02	93.65	93.71	93.70	93.72	0.021814	0.43	0.06	1.70	0.76
River 1	Reach 1-Upper	807	5YrSCS24Hr	0.04	93.65	93.77	93.71	93.77	0.001862	0.20	0.19	2.86	0.25
River 1	Reach 1-Upper	807	10YrSCS24Hr	0.05	93.65	93.81	93.72	93.81	0.000588	0.15	0.33	3.67	0.15
River 1	Reach 1-Upper	807	25YrSCS24Hr	0.06	93.65	93.89	93.73	93.89	0.000119	0.10	0.70	6.11	0.07
River 1	Reach 1-Upper	807	50YrSCS24Hr	0.07	93.65	94.04	93.74	94.04	0.000001	0.01	8.37	35.13	0.01
River 1	Reach 1-Upper	807	100YrSCS24Hr	0.08	93.65	94.14	93.74	94.14	0.000000	0.01	11.92	35.53	0.01
River 1	Reach 1-Upper	789	2YrCHI3Hr	0.02	93.49	93.67	93.53	93.67	0.000035	0.04	0.33	3.14	0.04
River 1	Reach 1-Upper	789	5YrCHI3Hr	0.03	93.49	93.72	93.54	93.72	0.000038	0.06	0.45	3.66	0.04
River 1	Reach 1-Upper	789	10YrCHI3Hr	0.03	93.49	93.76	93.55	93.76	0.000039	0.07	0.54	4.24	0.04
River 1	Reach 1-Upper	789	25YrCHI3Hr	0.05	93.49	93.80	93.56	93.80	0.000037	0.07	0.65	4.99	0.04
River 1	Reach 1-Upper	789	50YrCHI3Hr	0.06	93.49	93.86	93.57	93.86	0.000030	0.07	0.78	5.73	0.04
River 1	Reach 1-Upper	789	100YrCHI3Hr	0.07	93.49	93.96	93.57	93.96	0.000016	0.06	1.04	8.28	0.03
River 1	Reach 1-Upper	789	2YrSCS24Hr	0.02	93.49	93.71	93.54	93.71	0.000038	0.06	0.43	3.55	0.04
River 1	Reach 1-Upper	789	5YrSCS24Hr	0.04	93.49	93.77	93.55	93.77	0.000038	0.07	0.56	4.42	0.04
River 1	Reach 1-Upper	789	10YrSCS24Hr	0.05	93.49	93.81	93.56	93.81	0.000037	0.07	0.67	5.12	0.04
River 1	Reach 1-Upper	789	25YrSCS24Hr	0.06	93.49	93.89	93.57	93.89	0.000025	0.07	0.87	6.17	0.04
River 1	Reach 1-Upper	789	50YrSCS24Hr	0.07	93.49	94.04	93.57	94.04	0.000011	0.06	1.22	10.07	0.03
River 1	Reach 1-Upper	789	100YrSCS24Hr	0.08	93.49	94.14	93.58	94.14	0.000008	0.06	1.46	23.56	0.02
River 1	Reach 1-Upper	764		Culvert									
River 1	Reach 1-Upper	759	2YrCHI3Hr	0.02	93.46	93.53	93.50	93.53	0.002563	0.21	0.07	1.74	0.28
River 1	Reach 1-Upper	759	5YrCHI3Hr	0.03	93.46	93.56	93.51	93.56	0.002115	0.23	0.11	2.11	0.27
River 1	Reach 1-Upper	759	10YrCHI3Hr	0.03	93.46	93.59	93.52	93.60	0.001088	0.21	0.16	2.56	0.21
River 1	Reach 1-Upper	759	25YrCHI3Hr	0.05	93.46	93.66	93.53	93.66	0.000396	0.18	0.26	3.40	0.14
River 1	Reach 1-Upper	759	50YrCHI3Hr	0.06	93.46	93.74	93.54	93.74	0.000161	0.15	0.39	4.37	0.09
River 1	Reach 1-Upper	759	100YrCHI3Hr	0.07	93.46	93.83	93.54	93.84	0.000081	0.13	0.53	6.02	0.07
River 1	Reach 1-Upper	759	2YrSCS24Hr	0.02	93.46	93.55	93.51	93.56	0.002355	0.23	0.10	2.03	0.28
River 1	Reach 1-Upper	759	5YrSCS24Hr	0.04	93.46	93.61	93.52	93.61	0.000864	0.21	0.18	2.73	0.19
River 1	Reach 1-Upper	759	10YrSCS24Hr	0.05	93.46	93.67	93.53	93.67	0.000343	0.17	0.28	3.54	0.13
River 1	Reach 1-Upper	759	25YrSCS24Hr	0.06	93.46	93.79	93.54	93.79	0.000109	0.14	0.46	4.99	0.08
River 1	Reach 1-Upper	759	50YrSCS24Hr	0.07	93.46	93.89	93.54	93.89	0.000058	0.12	0.61	6.73	0.06
River 1	Reach 1-Upper	759	100YrSCS24Hr	0.08	93.46	93.95	93.55	93.95	0.000051	0.12	0.69	7.38	0.06
River 1	Reach 1-Upper	743	2YrCHI3Hr	0.02	93.40	93.47	93.45	93.47	0.006174	0.30	0.05	1.27	0.43
River 1	Reach 1-Upper	743	5YrCHI3Hr	0.03	93.40	93.53	93.46	93.54	0.001159	0.20	0.13	1.95	0.21
River 1	Reach 1-Upper	743	10YrCHI3Hr	0.03	93.40	93.58	93.47	93.58	0.000560	0.19	0.19	2.40	0.16
River 1	Reach 1-Upper	743	25YrCHI3Hr	0.05	93.40	93.66	93.48	93.66	0.000255	0.16	0.29	3.39	0.11
River 1	Reach 1-Upper	743	50YrCHI3Hr	0.06	93.40	93.74	93.49	93.74	0.000125	0.14	0.40	5.00	0.08
River 1	Reach 1-Upper	743	100YrCHI3Hr	0.07	93.40	93.83	93.50	93.83	0.000071	0.13	0.52	7.13	0.07
River 1	Reach 1-Upper	743	2YrSCS24Hr	0.02	93.40	93.52	93.46	93.52	0.001463	0.21	0.11	1.84	0.23
River 1	Reach 1-Upper	743	5YrSCS24Hr	0.04	93.40	93.60	93.47	93.60	0.000466	0.18	0.21	2.59	0.14
River 1	Reach 1-Upper	743	10YrSCS24Hr	0.05	93.40	93.67	93.48	93.67	0.000228	0.16	0.30	3.72	0.11
River 1	Reach 1-Upper	743	25YrSCS24Hr	0.06	93.40	93.79	93.49	93.79	0.000091	0.14	0.46	6.17	0.07
River 1	Reach 1-Upper	743	50YrSCS24Hr	0.07	93.40	93.89	93.50	93.89	0.000054	0.12	0.59	7.75	0.06
River 1	Reach 1-Upper	743	100YrSCS24Hr	0.08	93.40	93.94	93.51	93.95	0.000049	0.13	0.66	9.45	0.06
River 1	Reach 1-Upper	733		Culvert									
River 1	Reach 1-Upper	728	2YrCHI3Hr	0.02	93.33	93.46	93.38	93.46	0.000507	0.12	0.12	1.51	0.14
River 1	Reach 1-Upper	728	5YrCHI3Hr	0.03	93.33	93.52	93.40	93.52	0.000283	0.13	0.20	1.94	0.11
River 1	Reach 1-Upper	728	10YrCHI3Hr	0.03	93.33	93.56	93.41	93.56	0.000213	0.13	0.26	2.26	0.10
River 1	Reach 1-Upper	728	25YrCHI3Hr	0.05	93.33	93.63	93.42	93.63	0.000137	0.13	0.36	2.78	0.08
River 1	Reach 1-Upper	728	50YrCHI3Hr	0.06	93.33	93.70	93.43	93.70	0.000088	0.13	0.45	3.31	0.07
River 1	Reach 1-Upper	728	100YrCHI3Hr	0.07	93.33	93.78	93.43	93.78	0.000060	0.12	0.56	4.21	0.06
River 1	Reach 1-Upper	728	2YrSCS24Hr	0.02	93.33	93.51	93.39	93.51	0.000306	0.13	0.19	1.87	0.11
River 1	Reach 1-Upper	728	5YrSCS24Hr	0.04	93.33	93.58	93.41	93.58	0.000196	0.14	0.28	2.37	0.10
River 1	Reach 1-Upper	728	10YrSCS24Hr	0.05	93.33	93.64	93.42	93.64	0.000129	0.13	0.37	2.86	0.08
River 1	Reach 1-Upper	728	25YrSCS24Hr	0.06	93.33	93.74	93.43	93.74	0.000071	0.12	0.51	3.65	0.06
River 1	Reach 1-Upper	728	50YrSCS24Hr	0.07	93.33	93.82	93.44	93.82	0.000049	0.12	0.63	6.17	0.06
River 1	Reach 1-Upper	728	100YrSCS24Hr	0.08	93.33	93.85	93.45	93.85	0.000053	0.13	0.67	10.91	0.06
River 1	Reach 1-Upper	715	2YrCHI3Hr	0.02	93.32	93.46	93.36	93.46	0.000165	0.09	0.17	2.22	0.08
River 1	Reach 1-Upper	715	5YrCHI3Hr	0.03	93.32	93.52	93.37	93.52	0.000134	0.10	0.25	2.80	0.08
River 1	Reach 1-Upper	715	10YrCHI3Hr	0.03	93.32	93.56	93.38	93.56	0.000117	0.11	0.31	3.23	0.08
River 1	Reach 1-Upper	715	25YrCHI3Hr	0.05	93.32	93.63	93.39	93.63	0.000086	0.12	0.41	3.92	0.07
River 1	Reach 1-Upper	715	50YrCHI3Hr	0.06	93.32	93.70	93.39	93.70	0.000061	0.11	0.51	4.63	0.06
River 1	Reach 1-Upper	715	100YrCHI3Hr	0.07	93.32	93.77	93.40	93.78	0.000044	0.11	0.61	9.10	0.05

HEC-RAS Plan: 20250603-Pre_Dev_v01 (Continued)

River	Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
River 1	Reach 1-Upper	715	2YrSCS24Hr	0.02	93.32	93.51	93.36	93.51	0.000138	0.10	0.24	2.70	0.08
River 1	Reach 1-Upper	715	5YrSCS24Hr	0.04	93.32	93.57	93.38	93.57	0.000112	0.11	0.33	3.38	0.08
River 1	Reach 1-Upper	715	10YrSCS24Hr	0.05	93.32	93.64	93.39	93.64	0.000083	0.12	0.42	4.03	0.07
River 1	Reach 1-Upper	715	25YrSCS24Hr	0.06	93.32	93.74	93.40	93.74	0.000051	0.11	0.56	5.03	0.06
River 1	Reach 1-Upper	715	50YrSCS24Hr	0.07	93.32	93.82	93.40	93.82	0.000037	0.11	0.68	14.68	0.05
River 1	Reach 1-Upper	715	100YrSCS24Hr	0.08	93.32	93.85	93.41	93.85	0.000010	0.04	2.56	20.21	0.02
River 1	Reach 1-Upper	705		Culvert									
River 1	Reach 1-Upper	698	2YrCHI3Hr	0.02	93.24	93.31	93.29	93.31	0.009120	0.33	0.05	1.10	0.51
River 1	Reach 1-Upper	698	5YrCHI3Hr	0.03	93.24	93.31	93.30	93.32	0.019233	0.50	0.05	1.16	0.75
River 1	Reach 1-Upper	698	10YrCHI3Hr	0.03	93.24	93.31	93.31	93.33	0.027628	0.62	0.06	1.19	0.91
River 1	Reach 1-Upper	698	25YrCHI3Hr	0.05	93.24	93.42	93.32	93.43	0.000867	0.20	0.23	2.01	0.19
River 1	Reach 1-Upper	698	50YrCHI3Hr	0.06	93.24	93.51	93.33	93.51	0.000225	0.14	0.41	2.60	0.10
River 1	Reach 1-Upper	698	100YrCHI3Hr	0.07	93.24	93.51	93.34	93.51	0.000299	0.16	0.42	2.61	0.12
River 1	Reach 1-Upper	698	2YrSCS24Hr	0.02	93.24	93.31	93.30	93.32	0.015768	0.45	0.05	1.16	0.68
River 1	Reach 1-Upper	698	5YrSCS24Hr	0.04	93.24	93.32	93.31	93.34	0.027115	0.63	0.06	1.22	0.90
River 1	Reach 1-Upper	698	10YrSCS24Hr	0.05	93.24	93.47	93.32	93.47	0.000368	0.15	0.32	2.29	0.13
River 1	Reach 1-Upper	698	25YrSCS24Hr	0.06	93.24	93.51	93.33	93.51	0.000261	0.15	0.41	2.61	0.11
River 1	Reach 1-Upper	698	50YrSCS24Hr	0.07	93.24	93.51	93.34	93.52	0.000345	0.17	0.42	2.63	0.13
River 1	Reach 1-Upper	698	100YrSCS24Hr	0.08	93.24	93.52	93.35	93.52	0.000432	0.20	0.43	2.65	0.14
River 1	Reach 1-Upper	681	2YrCHI3Hr	0.02	93.14	93.21	93.18	93.21	0.004396	0.23	0.07	1.57	0.36
River 1	Reach 1-Upper	681	5YrCHI3Hr	0.03	93.14	93.24	93.19	93.24	0.001938	0.21	0.12	1.83	0.26
River 1	Reach 1-Upper	681	10YrCHI3Hr	0.03	93.14	93.27	93.20	93.27	0.001159	0.19	0.18	2.04	0.21
River 1	Reach 1-Upper	681	25YrCHI3Hr	0.05	93.14	93.42	93.21	93.42	0.000083	0.08	0.57	3.09	0.06
River 1	Reach 1-Upper	681	50YrCHI3Hr	0.06	93.14	93.51	93.22	93.51	0.000037	0.07	0.87	4.07	0.04
River 1	Reach 1-Upper	681	100YrCHI3Hr	0.07	93.14	93.51	93.22	93.51	0.000050	0.08	0.88	4.10	0.05
River 1	Reach 1-Upper	681	2YrSCS24Hr	0.02	93.14	93.23	93.19	93.24	0.002334	0.22	0.11	1.78	0.28
River 1	Reach 1-Upper	681	5YrSCS24Hr	0.04	93.14	93.29	93.20	93.29	0.000854	0.18	0.21	2.14	0.18
River 1	Reach 1-Upper	681	10YrSCS24Hr	0.05	93.14	93.46	93.21	93.46	0.000050	0.07	0.70	3.45	0.05
River 1	Reach 1-Upper	681	25YrSCS24Hr	0.06	93.14	93.51	93.22	93.51	0.000043	0.07	0.88	4.08	0.05
River 1	Reach 1-Upper	681	50YrSCS24Hr	0.07	93.14	93.51	93.23	93.51	0.000058	0.08	0.89	4.12	0.05
River 1	Reach 1-Upper	681	100YrSCS24Hr	0.08	93.14	93.52	93.23	93.52	0.000073	0.09	0.90	4.16	0.06
River 1	Reach 1-Upper	663	2YrCHI3Hr	0.02	93.05	93.18		93.18	0.000677	0.14	0.11	1.31	0.15
River 1	Reach 1-Upper	663	5YrCHI3Hr	0.03	93.05	93.22		93.23	0.000607	0.15	0.17	1.60	0.15
River 1	Reach 1-Upper	663	10YrCHI3Hr	0.03	93.05	93.26		93.26	0.000492	0.15	0.23	1.84	0.14
River 1	Reach 1-Upper	663	25YrCHI3Hr	0.05	93.05	93.42		93.42	0.000064	0.07	0.63	3.25	0.05
River 1	Reach 1-Upper	663	50YrCHI3Hr	0.06	93.05	93.51		93.51	0.000032	0.06	0.96	4.42	0.04
River 1	Reach 1-Upper	663	100YrCHI3Hr	0.07	93.05	93.51		93.51	0.000043	0.07	0.97	4.46	0.05
River 1	Reach 1-Upper	663	2YrSCS24Hr	0.02	93.05	93.21		93.22	0.000676	0.16	0.15	1.53	0.16
River 1	Reach 1-Upper	663	5YrSCS24Hr	0.04	93.05	93.28		93.28	0.000393	0.14	0.26	1.97	0.13
River 1	Reach 1-Upper	663	10YrSCS24Hr	0.05	93.05	93.46		93.46	0.000042	0.06	0.78	3.77	0.04
River 1	Reach 1-Upper	663	25YrSCS24Hr	0.06	93.05	93.51		93.51	0.000037	0.06	0.96	4.44	0.04
River 1	Reach 1-Upper	663	50YrSCS24Hr	0.07	93.05	93.51		93.51	0.000050	0.08	0.97	4.48	0.05
River 1	Reach 1-Upper	663	100YrSCS24Hr	0.08	93.05	93.51		93.52	0.000064	0.09	0.99	4.53	0.06
River 1	Reach 1-Upper	656	2YrCHI3Hr	0.06	93.03	93.15	93.12	93.16	0.008107	0.46	0.12	1.65	0.53
River 1	Reach 1-Upper	656	5YrCHI3Hr	0.10	93.03	93.19	93.14	93.20	0.006746	0.51	0.20	1.91	0.51
River 1	Reach 1-Upper	656	10YrCHI3Hr	0.14	93.03	93.23	93.16	93.24	0.004212	0.48	0.29	2.15	0.42
River 1	Reach 1-Upper	656	25YrCHI3Hr	0.18	93.03	93.42	93.18	93.42	0.000424	0.23	0.79	3.69	0.15
River 1	Reach 1-Upper	656	50YrCHI3Hr	0.22	93.03	93.51	93.20	93.51	0.000220	0.20	1.16	4.65	0.11
River 1	Reach 1-Upper	656	100YrCHI3Hr	0.26	93.03	93.51	93.21	93.51	0.000302	0.24	1.17	4.66	0.13
River 1	Reach 1-Upper	656	2YrSCS24Hr	0.09	93.03	93.18	93.14	93.19	0.007190	0.50	0.18	1.85	0.52
River 1	Reach 1-Upper	656	5YrSCS24Hr	0.15	93.03	93.26	93.17	93.27	0.003060	0.44	0.34	2.29	0.36
River 1	Reach 1-Upper	656	10YrSCS24Hr	0.19	93.03	93.46	93.18	93.46	0.000269	0.21	0.96	4.20	0.12
River 1	Reach 1-Upper	656	25YrSCS24Hr	0.24	93.03	93.51	93.20	93.51	0.000267	0.23	1.17	4.65	0.12
River 1	Reach 1-Upper	656	50YrSCS24Hr	0.28	93.03	93.51	93.22	93.51	0.000363	0.26	1.17	4.66	0.14
River 1	Reach 1-Upper	656	100YrSCS24Hr	0.33	93.03	93.51	93.23	93.51	0.000481	0.30	1.18	4.68	0.16
River 1	Reach 1-Upper	638	2YrCHI3Hr	0.06	92.92	93.07	93.00	93.08	0.002802	0.32	0.18	1.81	0.32
River 1	Reach 1-Upper	638	5YrCHI3Hr	0.10	92.92	93.14	93.04	93.14	0.001935	0.33	0.31	2.24	0.28
River 1	Reach 1-Upper	638	10YrCHI3Hr	0.14	92.92	93.20	93.05	93.21	0.001072	0.29	0.48	2.76	0.22
River 1	Reach 1-Upper	638	25YrCHI3Hr	0.18	92.92	93.41	93.07	93.42	0.000128	0.15	1.31	5.26	0.08
River 1	Reach 1-Upper	638	50YrCHI3Hr	0.22	92.92	93.50	93.09	93.51	0.000082	0.14	1.86	6.83	0.07
River 1	Reach 1-Upper	638	100YrCHI3Hr	0.26	92.92	93.50	93.10	93.51	0.000114	0.16	1.86	6.84	0.08
River 1	Reach 1-Upper	638	2YrSCS24Hr	0.09	92.92	93.12	93.03	93.12	0.002288	0.34	0.27	2.11	0.30
River 1	Reach 1-Upper	638	5YrSCS24Hr	0.15	92.92	93.24	93.06	93.24	0.000804	0.26	0.57	3.07	0.19
River 1	Reach 1-Upper	638	10YrSCS24Hr	0.19	92.92	93.46	93.08	93.46	0.000092	0.14	1.57	6.15	0.07
River 1	Reach 1-Upper	638	25YrSCS24Hr	0.24	92.92	93.50	93.10	93.51	0.000100	0.15	1.86	6.83	0.08
River 1	Reach 1-Upper	638	50YrSCS24Hr	0.28	92.92	93.50	93.11	93.51	0.000137	0.18	1.87	6.84	0.09
River 1	Reach 1-Upper	638	100YrSCS24Hr	0.33	92.92	93.51	93.13	93.51	0.000184	0.20	1.87	6.85	0.10
River 1	Reach 1-Upper	617	2YrCHI3Hr	0.06	92.84	93.01	92.95	93.01	0.003253	0.32	0.18	1.96	0.34
River 1	Reach 1-Upper	617	5YrCHI3Hr	0.10	92.84	93.11	92.98	93.11	0.000952	0.24	0.43	2.97	0.20
River 1	Reach 1-Upper	617	10YrCHI3Hr	0.14	92.84	93.19	93.00	93.19	0.000453	0.19	0.70	3.82	0.14
River 1	Reach 1-Upper	617	25YrCHI3Hr	0.18	92.84	93.41	93.01	93.41	0.000070	0.09	1.97	8.09	0.06
River 1	Reach 1-Upper	617	50YrCHI3Hr	0.22	92.84	93.50	93.03	93.50	0.000037	0.08	2.93	15.17	0.05
River 1	Reach 1-Upper	617	100YrCHI3Hr	0.26	92.84	93.50	93.04	93.50	0.000051	0.09	2.93	15.17	0.05
River 1	Reach 1-Upper	617	2YrSCS24Hr	0.09	92.84	93.08	92.97	93.09	0.001277	0.26	0.35	2.70	0.23
River 1	Reach 1-Upper	617	5YrSCS24Hr	0.15	92.84	93.23	93.00	93.23	0.000340	0.18	0.84	4.32	0.13
River 1	Reach 1-Upper	617	10YrSCS24Hr	0.19	92.84	93.46	93.02	93.46	0.000046	0.08	2.37	10.22	0.05
River 1	Reach 1-Upper	617	25YrSCS24Hr	0.24	92.84	93.50	93.04	93.50	0.000045	0.09	2.93	15.17	0.05
River 1	Reach 1-Upper	617	50YrSCS24Hr	0.28	92.84	93.50	93.05	93.50	0.000062	0.10	2.93	15.17	0.06
River 1	Reach 1-Upper	617	100YrSCS24Hr	0.33	92.84	93.50	93.06	93.50	0.000083	0.12	2.93	15.18	0.07
River 1	Reach 1-Upper	598	2YrCHI3Hr	0.06	92.76	92.99	92.86	92.99	0.000555	0.18	0.33	2.52	0.15
River 1	Reach 1-Upper	598	5YrCHI3Hr	0.11	92.76	93.10	92.89	93.10	0.000269	0.18	0.61	3.40	0.12
River 1	Reach 1-Upper	598	10YrCHI3Hr	0.15	92.76	93.19	92.91	93.19	0.000175	0.18	0.82	5.45	0.10

HEC-RAS Plan: 20250603-Pre_Dev_v01 (Continued)

River	Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
River 1	Reach 1-Upper	598	25YrCHl3Hr	0.19	92.76	93.41	92.93	93.41	0.000054	0.14	1.39	9.84	0.06
River 1	Reach 1-Upper	598	50YrCHl3Hr	0.23	92.76	93.50	92.94	93.50	0.000020	0.08	4.94	31.21	0.04
River 1	Reach 1-Upper	598	100YrCHl3Hr	0.28	92.76	93.50	92.96	93.50	0.000028	0.09	4.93	31.21	0.04
River 1	Reach 1-Upper	598	2YrSCS24Hr	0.10	92.76	93.07	92.88	93.07	0.000322	0.18	0.53	3.17	0.12
River 1	Reach 1-Upper	598	5YrSCS24Hr	0.16	92.76	93.22	92.91	93.22	0.000147	0.17	0.91	6.16	0.09
River 1	Reach 1-Upper	598	10YrSCS24Hr	0.20	92.76	93.46	92.93	93.46	0.000045	0.13	1.50	22.56	0.06
River 1	Reach 1-Upper	598	25YrSCS24Hr	0.26	92.76	93.50	92.95	93.50	0.000025	0.09	4.94	31.21	0.04
River 1	Reach 1-Upper	598	50YrSCS24Hr	0.30	92.76	93.50	92.96	93.50	0.000034	0.10	4.93	31.21	0.05
River 1	Reach 1-Upper	598	100YrSCS24Hr	0.35	92.76	93.50	92.98	93.50	0.000046	0.12	4.93	31.21	0.05
River 1	Reach 1-Upper	589		Culvert									
River 1	Reach 1-Upper	581	2YrCHl3Hr	0.06	92.71	92.89	92.81	92.89	0.002032	0.27	0.23	2.59	0.28
River 1	Reach 1-Upper	581	5YrCHl3Hr	0.11	92.71	92.93	92.84	92.93	0.001970	0.33	0.33	3.40	0.29
River 1	Reach 1-Upper	581	10YrCHl3Hr	0.15	92.71	92.96	92.86	92.97	0.001571	0.34	0.42	4.10	0.27
River 1	Reach 1-Upper	581	25YrCHl3Hr	0.19	92.71	93.04	92.88	93.04	0.000858	0.32	0.60	5.44	0.21
River 1	Reach 1-Upper	581	50YrCHl3Hr	0.23	92.71	93.19	92.89	93.19	0.000244	0.24	0.98	9.64	0.12
River 1	Reach 1-Upper	581	100YrCHl3Hr	0.28	92.71	93.25	92.90	93.25	0.000213	0.24	1.13	30.32	0.12
River 1	Reach 1-Upper	581	2YrSCS24Hr	0.10	92.71	92.92	92.83	92.92	0.002062	0.32	0.30	3.18	0.29
River 1	Reach 1-Upper	581	5YrSCS24Hr	0.16	92.71	92.98	92.86	92.99	0.001381	0.34	0.46	4.41	0.25
River 1	Reach 1-Upper	581	10YrSCS24Hr	0.20	92.71	93.05	92.88	93.06	0.000735	0.31	0.65	5.75	0.20
River 1	Reach 1-Upper	581	25YrSCS24Hr	0.26	92.71	93.25	92.90	93.25	0.000187	0.23	1.13	30.32	0.11
River 1	Reach 1-Upper	581	50YrSCS24Hr	0.30	92.71	93.26	92.91	93.26	0.000245	0.26	1.15	30.62	0.12
River 1	Reach 1-Upper	581	100YrSCS24Hr	0.35	92.71	93.30	92.92	93.30	0.000057	0.11	4.83	35.67	0.06
River 1	Reach 1-Upper	572	2YrCHl3Hr	0.06	92.73	92.84	92.82	92.85	0.009130	0.45	0.13	1.96	0.55
River 1	Reach 1-Upper	572	5YrCHl3Hr	0.11	92.73	92.90	92.84	92.90	0.004896	0.43	0.26	2.58	0.43
River 1	Reach 1-Upper	572	10YrCHl3Hr	0.15	92.73	92.94	92.86	92.95	0.002649	0.37	0.39	3.10	0.33
River 1	Reach 1-Upper	572	25YrCHl3Hr	0.19	92.73	93.03	92.88	93.03	0.001021	0.28	0.70	4.09	0.22
River 1	Reach 1-Upper	572	50YrCHl3Hr	0.23	92.73	93.19	92.89	93.19	0.000155	0.14	2.22	26.73	0.09
River 1	Reach 1-Upper	572	100YrCHl3Hr	0.28	92.73	93.25	92.90	93.25	0.000074	0.11	4.09	35.89	0.06
River 1	Reach 1-Upper	572	2YrSCS24Hr	0.10	92.73	92.88	92.84	92.89	0.005898	0.44	0.22	2.42	0.47
River 1	Reach 1-Upper	572	5YrSCS24Hr	0.16	92.73	92.96	92.86	92.97	0.002084	0.34	0.46	3.34	0.30
River 1	Reach 1-Upper	572	10YrSCS24Hr	0.20	92.73	93.05	92.88	93.05	0.000824	0.26	0.78	4.31	0.20
River 1	Reach 1-Upper	572	25YrSCS24Hr	0.26	92.73	93.25	92.90	93.25	0.000065	0.10	4.09	35.88	0.06
River 1	Reach 1-Upper	572	50YrSCS24Hr	0.30	92.73	93.26	92.91	93.26	0.000079	0.12	4.37	36.88	0.07
River 1	Reach 1-Upper	572	100YrSCS24Hr	0.35	92.73	93.30	92.92	93.30	0.000050	0.10	6.26	42.85	0.05
River 1	Reach 1-Upper	555	2YrCHl3Hr	0.06	92.61	92.81	92.71	92.81	0.000983	0.20	0.31	2.93	0.20
River 1	Reach 1-Upper	555	5YrCHl3Hr	0.11	92.61	92.87	92.74	92.87	0.000748	0.21	0.52	3.73	0.18
River 1	Reach 1-Upper	555	10YrCHl3Hr	0.15	92.61	92.93	92.75	92.93	0.000479	0.19	0.76	4.46	0.15
River 1	Reach 1-Upper	555	25YrCHl3Hr	0.19	92.61	93.02	92.77	93.02	0.000238	0.16	1.22	5.62	0.11
River 1	Reach 1-Upper	555	50YrCHl3Hr	0.23	92.61	93.19	92.78	93.19	0.000031	0.08	4.98	37.27	0.04
River 1	Reach 1-Upper	555	100YrCHl3Hr	0.28	92.61	93.25	92.80	93.25	0.000018	0.06	7.39	40.94	0.03
River 1	Reach 1-Upper	555	2YrSCS24Hr	0.10	92.61	92.85	92.73	92.85	0.000851	0.21	0.45	3.50	0.19
River 1	Reach 1-Upper	555	5YrSCS24Hr	0.16	92.61	92.95	92.76	92.95	0.000402	0.18	0.87	4.75	0.14
River 1	Reach 1-Upper	555	10YrSCS24Hr	0.20	92.61	93.04	92.77	93.04	0.000197	0.15	1.34	5.96	0.10
River 1	Reach 1-Upper	555	25YrSCS24Hr	0.26	92.61	93.25	92.79	93.25	0.000016	0.06	7.39	40.94	0.03
River 1	Reach 1-Upper	555	50YrSCS24Hr	0.30	92.61	93.26	92.81	93.26	0.000020	0.07	7.70	41.13	0.03
River 1	Reach 1-Upper	555	100YrSCS24Hr	0.35	92.61	93.30	92.82	93.30	0.000015	0.06	9.71	43.21	0.03
River 1	Reach 1-Upper	534	2YrCHl3Hr	0.06	92.59	92.78	92.69	92.78	0.001540	0.24	0.25	2.41	0.24
River 1	Reach 1-Upper	534	5YrCHl3Hr	0.11	92.59	92.85	92.72	92.86	0.001007	0.24	0.46	3.30	0.21
River 1	Reach 1-Upper	534	10YrCHl3Hr	0.15	92.59	92.92	92.74	92.92	0.000570	0.21	0.74	8.51	0.16
River 1	Reach 1-Upper	534	25YrCHl3Hr	0.19	92.59	93.02	92.76	93.02	0.000095	0.11	3.36	40.28	0.07
River 1	Reach 1-Upper	534	50YrCHl3Hr	0.23	92.59	93.19	92.78	93.19	0.000006	0.04	11.46	51.16	0.02
River 1	Reach 1-Upper	534	100YrCHl3Hr	0.28	92.59	93.25	92.79	93.25	0.000004	0.03	14.61	51.39	0.02
River 1	Reach 1-Upper	534	2YrSCS24Hr	0.10	92.59	92.83	92.71	92.83	0.001214	0.25	0.39	3.03	0.22
River 1	Reach 1-Upper	534	5YrSCS24Hr	0.16	92.59	92.94	92.75	92.95	0.000422	0.19	1.07	17.97	0.14
River 1	Reach 1-Upper	534	10YrSCS24Hr	0.20	92.59	93.04	92.76	93.04	0.000064	0.09	4.23	42.61	0.06
River 1	Reach 1-Upper	534	25YrSCS24Hr	0.26	92.59	93.25	92.78	93.25	0.000003	0.03	14.61	51.39	0.01
River 1	Reach 1-Upper	534	50YrSCS24Hr	0.30	92.59	93.26	92.80	93.26	0.000004	0.03	14.99	51.42	0.02
River 1	Reach 1-Upper	534	100YrSCS24Hr	0.35	92.59	93.30	92.81	93.30	0.000004	0.03	17.46	51.60	0.02
River 1	Reach 1-Upper	510	2YrCHl3Hr	0.06	92.60	92.71	92.67	92.72	0.005825	0.43	0.14	2.60	0.46
River 1	Reach 1-Upper	510	5YrCHl3Hr	0.11	92.60	92.82	92.70	92.83	0.001169	0.34	0.32	4.18	0.24
River 1	Reach 1-Upper	510	10YrCHl3Hr	0.15	92.60	92.90	92.72	92.90	0.000712	0.32	0.45	5.29	0.20
River 1	Reach 1-Upper	510	25YrCHl3Hr	0.19	92.60	93.01	92.73	93.01	0.000421	0.31	0.62	14.09	0.16
River 1	Reach 1-Upper	510	50YrCHl3Hr	0.23	92.60	93.18	92.75	93.19	0.000180	0.26	0.90	109.29	0.11
River 1	Reach 1-Upper	510	100YrCHl3Hr	0.28	92.60	93.25	92.77	93.25	0.000000	0.01	42.37	109.53	0.00
River 1	Reach 1-Upper	510	2YrSCS24Hr	0.10	92.60	92.79	92.69	92.80	0.001503	0.34	0.28	3.79	0.26
River 1	Reach 1-Upper	510	5YrSCS24Hr	0.16	92.60	92.93	92.72	92.93	0.000617	0.32	0.49	5.78	0.19
River 1	Reach 1-Upper	510	10YrSCS24Hr	0.20	92.60	93.03	92.74	93.04	0.000378	0.31	0.66	15.54	0.15
River 1	Reach 1-Upper	510	25YrSCS24Hr	0.26	92.60	93.25	92.76	93.25	0.000000	0.01	42.37	109.53	0.00
River 1	Reach 1-Upper	510	50YrSCS24Hr	0.30	92.60	93.26	92.78	93.26	0.000000	0.01	43.19	109.55	0.01
River 1	Reach 1-Upper	510	100YrSCS24Hr	0.35	92.60	93.30	92.79	93.30	0.000000	0.01	48.45	109.72	0.00
River 1	Reach 1-Upper	505		Culvert									
River 1	Reach 1-Upper	502	2YrCHl3Hr	0.07	92.49	92.60	92.57	92.61	0.007956	0.50	0.13	2.20	0.54
River 1	Reach 1-Upper	502	5YrCHl3Hr	0.12	92.49	92.65	92.60	92.67	0.006462	0.60	0.20	2.74	0.52
River 1	Reach 1-Upper	502	10YrCHl3Hr	0.16	92.49	92.68	92.62	92.70	0.006042	0.66	0.25	3.06	0.52
River 1	Reach 1-Upper	502	25YrCHl3Hr	0.22	92.49	92.73	92.64	92.76	0.004047	0.66	0.33	4.01	0.45
River 1	Reach 1-Upper	502	50YrCHl3Hr	0.26	92.49	92.83	92.66	92.85	0.001665	0.54	0.48	5.45	0.31
River 1	Reach 1-Upper	502	100YrCHl3Hr	0.31	92.49	92.99	92.68	93.00	0.000619	0.43	0.72	104.79	0.20
River 1	Reach 1-Upper	502	2YrSCS24Hr	0.11	92.49	92.64	92.59	92.65	0.006729	0.58	0.19	2.62	0.53
River 1	Reach 1-Upper	502	5YrSCS24Hr	0.18	92.49	92.69	92.63	92.71	0.005546	0.67	0.27	3.21	0.51
River 1	Reach 1-Upper	502	10YrSCS24Hr	0.23	92.49	92.75	92.65	92.77	0.003381	0.64	0.36	4.41	0.42
River 1	Reach 1-Upper	502	25YrSCS24Hr	0.29	92.49	92.92	92.67	92.94	0.000902	0.47	0.62	7.34	0.24
River 1	Reach 1-Upper	502	50YrSCS24Hr	0.34	92.49	93.11	92.69	93.12	0.000353	0.38	0.90	105.15	0.16

HEC-RAS Plan: 20250603-Pre_Dev_v01 (Continued)

River	Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
River 1	Reach 1-Upper	502	100YrSCS24Hr	0.40	92.49	93.30	92.71	93.30	0.000000	0.01	51.89	105.65	0.00
River 1	Reach 1-Upper	493	2YrCHI3Hr	0.07	92.34	92.60	92.42	92.60	0.000124	0.09	0.72	4.59	0.07
River 1	Reach 1-Upper	493	5YrCHI3Hr	0.12	92.34	92.65	92.45	92.65	0.000198	0.13	0.96	5.44	0.10
River 1	Reach 1-Upper	493	10YrCHI3Hr	0.16	92.34	92.68	92.46	92.68	0.000233	0.14	1.13	5.98	0.10
River 1	Reach 1-Upper	493	25YrCHI3Hr	0.22	92.34	92.74	92.48	92.74	0.000196	0.14	1.51	6.84	0.10
River 1	Reach 1-Upper	493	50YrCHI3Hr	0.26	92.34	92.84	92.49	92.84	0.000098	0.12	2.27	8.59	0.07
River 1	Reach 1-Upper	493	100YrCHI3Hr	0.31	92.34	93.00	92.50	93.00	0.000001	0.02	28.79	101.37	0.01
River 1	Reach 1-Upper	493	2YrSCS24Hr	0.11	92.34	92.64	92.44	92.64	0.000183	0.12	0.90	5.23	0.09
River 1	Reach 1-Upper	493	5YrSCS24Hr	0.18	92.34	92.70	92.46	92.70	0.000231	0.15	1.22	6.23	0.11
River 1	Reach 1-Upper	493	10YrSCS24Hr	0.23	92.34	92.76	92.48	92.76	0.000169	0.14	1.63	7.02	0.09
River 1	Reach 1-Upper	493	25YrSCS24Hr	0.29	92.34	92.93	92.50	92.93	0.000047	0.09	3.20	13.20	0.05
River 1	Reach 1-Upper	493	50YrSCS24Hr	0.34	92.34	93.12	92.51	93.12	0.000001	0.01	41.12	102.01	0.01
River 1	Reach 1-Upper	493	100YrSCS24Hr	0.40	92.34	93.30	92.52	93.30	0.000000	0.01	60.16	102.98	0.00
River 1	Reach 1-Upper	474	2YrCHI3Hr	0.07	92.41	92.60	92.50	92.60	0.000594	0.14	0.47	4.97	0.15
River 1	Reach 1-Upper	474	5YrCHI3Hr	0.12	92.41	92.64	92.53	92.65	0.000595	0.17	0.72	5.95	0.16
River 1	Reach 1-Upper	474	10YrCHI3Hr	0.16	92.41	92.67	92.54	92.68	0.000563	0.18	0.90	6.59	0.15
River 1	Reach 1-Upper	474	25YrCHI3Hr	0.22	92.41	92.73	92.56	92.74	0.000352	0.16	1.33	7.87	0.13
River 1	Reach 1-Upper	474	50YrCHI3Hr	0.26	92.41	92.84	92.57	92.84	0.000001	0.01	25.75	91.49	0.01
River 1	Reach 1-Upper	474	100YrCHI3Hr	0.31	92.41	93.00	92.58	93.00	0.000000	0.01	40.12	92.20	0.01
River 1	Reach 1-Upper	474	2YrSCS24Hr	0.11	92.41	92.63	92.52	92.63	0.000605	0.16	0.65	5.71	0.16
River 1	Reach 1-Upper	474	5YrSCS24Hr	0.18	92.41	92.69	92.55	92.69	0.000512	0.18	1.00	6.89	0.15
River 1	Reach 1-Upper	474	10YrSCS24Hr	0.23	92.41	92.75	92.56	92.75	0.000285	0.15	1.49	8.28	0.12
River 1	Reach 1-Upper	474	25YrSCS24Hr	0.29	92.41	92.93	92.57	92.93	0.000001	0.01	33.86	91.89	0.01
River 1	Reach 1-Upper	474	50YrSCS24Hr	0.34	92.41	93.12	92.58	93.12	0.000000	0.01	51.33	92.74	0.00
River 1	Reach 1-Upper	474	100YrSCS24Hr	0.40	92.41	93.30	92.59	93.30	0.000000	0.01	68.65	93.59	0.00
River 1	Reach 1-Upper	454	2YrCHI3Hr	0.07	92.44	92.58	92.50	92.58	0.001576	0.24	0.28	2.85	0.24
River 1	Reach 1-Upper	454	5YrCHI3Hr	0.12	92.44	92.62	92.53	92.63	0.001689	0.29	0.41	3.31	0.26
River 1	Reach 1-Upper	454	10YrCHI3Hr	0.16	92.44	92.65	92.55	92.66	0.001595	0.31	0.52	3.64	0.26
River 1	Reach 1-Upper	454	25YrCHI3Hr	0.22	92.44	92.72	92.56	92.72	0.000913	0.28	0.79	4.34	0.21
River 1	Reach 1-Upper	454	50YrCHI3Hr	0.26	92.44	92.84	92.57	92.84	0.000012	0.04	12.27	82.88	0.03
River 1	Reach 1-Upper	454	100YrCHI3Hr	0.31	92.44	93.00	92.59	93.00	0.000002	0.02	25.28	83.36	0.01
River 1	Reach 1-Upper	454	2YrSCS24Hr	0.11	92.44	92.61	92.52	92.62	0.001709	0.28	0.38	3.19	0.26
River 1	Reach 1-Upper	454	5YrSCS24Hr	0.18	92.44	92.67	92.55	92.67	0.001416	0.30	0.58	3.81	0.25
River 1	Reach 1-Upper	454	10YrSCS24Hr	0.23	92.44	92.74	92.56	92.74	0.000715	0.26	0.88	4.56	0.18
River 1	Reach 1-Upper	454	25YrSCS24Hr	0.29	92.44	92.93	92.58	92.93	0.000003	0.03	19.62	83.15	0.01
River 1	Reach 1-Upper	454	50YrSCS24Hr	0.34	92.44	93.12	92.60	93.12	0.000001	0.02	35.41	83.72	0.01
River 1	Reach 1-Upper	454	100YrSCS24Hr	0.40	92.44	93.30	92.61	93.30	0.000000	0.01	51.02	84.29	0.00
River 1	Reach 1-Upper	434	2YrCHI3Hr	0.07	92.42	92.53	92.49	92.54	0.003245	0.30	0.23	2.89	0.34
River 1	Reach 1-Upper	434	5YrCHI3Hr	0.12	92.42	92.58	92.51	92.59	0.002201	0.32	0.38	3.34	0.30
River 1	Reach 1-Upper	434	10YrCHI3Hr	0.16	92.42	92.62	92.52	92.62	0.001702	0.32	0.51	3.67	0.27
River 1	Reach 1-Upper	434	25YrCHI3Hr	0.22	92.42	92.72	92.54	92.72	0.000099	0.09	4.19	44.55	0.07
River 1	Reach 1-Upper	434	50YrCHI3Hr	0.26	92.42	92.84	92.55	92.84	0.000011	0.04	12.14	73.98	0.02
River 1	Reach 1-Upper	434	100YrCHI3Hr	0.31	92.42	93.00	92.56	93.00	0.000002	0.02	23.78	74.52	0.01
River 1	Reach 1-Upper	434	2YrSCS24Hr	0.11	92.42	92.57	92.50	92.57	0.002433	0.31	0.34	3.22	0.31
River 1	Reach 1-Upper	434	5YrSCS24Hr	0.18	92.42	92.64	92.53	92.64	0.001593	0.30	0.59	4.31	0.26
River 1	Reach 1-Upper	434	10YrSCS24Hr	0.23	92.42	92.74	92.54	92.74	0.000062	0.08	5.30	52.04	0.05
River 1	Reach 1-Upper	434	25YrSCS24Hr	0.29	92.42	92.93	92.55	92.93	0.000003	0.03	18.72	74.29	0.01
River 1	Reach 1-Upper	434	50YrSCS24Hr	0.34	92.42	93.12	92.57	93.12	0.000001	0.02	32.84	74.94	0.01
River 1	Reach 1-Upper	434	100YrSCS24Hr	0.40	92.42	93.30	92.58	93.30	0.000000	0.01	46.84	75.66	0.00
River 1	Reach 1-Upper	416	2YrCHI3Hr	0.07	92.34	92.51	92.42	92.51	0.000622	0.15	0.44	4.70	0.15
River 1	Reach 1-Upper	416	5YrCHI3Hr	0.12	92.34	92.57	92.45	92.57	0.000424	0.17	0.75	5.83	0.14
River 1	Reach 1-Upper	416	10YrCHI3Hr	0.16	92.34	92.62	92.46	92.62	0.000159	0.12	2.27	28.78	0.09
River 1	Reach 1-Upper	416	25YrCHI3Hr	0.22	92.34	92.72	92.48	92.72	0.000031	0.07	5.56	35.85	0.04
River 1	Reach 1-Upper	416	50YrCHI3Hr	0.26	92.34	92.84	92.48	92.84	0.000008	0.05	10.70	48.52	0.02
River 1	Reach 1-Upper	416	100YrCHI3Hr	0.31	92.34	93.00	92.49	93.00	0.000002	0.03	20.27	66.96	0.01
River 1	Reach 1-Upper	416	2YrSCS24Hr	0.11	92.34	92.56	92.44	92.56	0.000463	0.17	0.67	5.55	0.14
River 1	Reach 1-Upper	416	5YrSCS24Hr	0.18	92.34	92.64	92.47	92.64	0.000108	0.11	2.88	30.23	0.07
River 1	Reach 1-Upper	416	10YrSCS24Hr	0.23	92.34	92.74	92.48	92.74	0.000024	0.07	6.41	39.28	0.04
River 1	Reach 1-Upper	416	25YrSCS24Hr	0.29	92.34	92.93	92.49	92.93	0.000004	0.04	15.73	65.04	0.02
River 1	Reach 1-Upper	416	50YrSCS24Hr	0.34	92.34	93.12	92.50	93.12	0.000001	0.02	28.42	67.40	0.01
River 1	Reach 1-Upper	416	100YrSCS24Hr	0.40	92.34	93.30	92.51	93.30	0.000000	0.02	41.01	68.07	0.01
River 1	Reach 1-Upper	398	2YrCHI3Hr	0.07	92.28	92.50	92.40	92.50	0.000933	0.21	0.31	2.50	0.19
River 1	Reach 1-Upper	398	5YrCHI3Hr	0.12	92.28	92.56	92.42	92.56	0.000915	0.26	0.47	2.86	0.20
River 1	Reach 1-Upper	398	10YrCHI3Hr	0.16	92.28	92.61	92.44	92.61	0.000752	0.26	0.62	3.16	0.19
River 1	Reach 1-Upper	398	25YrCHI3Hr	0.22	92.28	92.71	92.46	92.72	0.000355	0.22	1.01	4.66	0.14
River 1	Reach 1-Upper	398	50YrCHI3Hr	0.26	92.28	92.84	92.47	92.84	0.000076	0.12	4.26	46.30	0.07
River 1	Reach 1-Upper	398	100YrCHI3Hr	0.31	92.28	93.00	92.49	93.00	0.000008	0.05	12.80	58.61	0.02
River 1	Reach 1-Upper	398	2YrSCS24Hr	0.11	92.28	92.54	92.42	92.55	0.000935	0.25	0.43	2.77	0.20
River 1	Reach 1-Upper	398	5YrSCS24Hr	0.18	92.28	92.63	92.44	92.63	0.000660	0.26	0.69	3.29	0.18
River 1	Reach 1-Upper	398	10YrSCS24Hr	0.23	92.28	92.74	92.46	92.74	0.000295	0.21	1.13	5.59	0.12
River 1	Reach 1-Upper	398	25YrSCS24Hr	0.29	92.28	92.93	92.48	92.93	0.000020	0.07	8.81	58.42	0.03
River 1	Reach 1-Upper	398	50YrSCS24Hr	0.34	92.28	93.12	92.50	93.12	0.000003	0.03	19.93	58.96	0.01
River 1	Reach 1-Upper	398	100YrSCS24Hr	0.40	92.28	93.30	92.51	93.30	0.000001	0.02	30.94	59.51	0.01
River 1	Reach 1-Upper	383	2YrCHI3Hr	0.07	92.34	92.47	92.42	92.47	0.004536	0.39	0.17	1.90	0.41
River 1	Reach 1-Upper	383	5YrCHI3Hr	0.12	92.34	92.53	92.45	92.54	0.002876	0.39	0.31	2.30	0.34
River 1	Reach 1-Upper	383	10YrCHI3Hr	0.16	92.34	92.59	92.47	92.59	0.001737	0.36	0.45	2.62	0.28
River 1	Reach 1-Upper	383	25YrCHI3Hr	0.22	92.34	92.70	92.49	92.71	0.000630	0.27	0.80	3.29	0.18
River 1	Reach 1-Upper	383	50YrCHI3Hr	0.26	92.34	92.83	92.50	92.84	0.000255	0.21	1.27	4.01	0.12
River 1	Reach 1-Upper	383	100YrCHI3Hr	0.31	92.34	92.99	92.52	93.00	0.000100	0.16	2.02	5.50	0.08
River 1	Reach 1-Upper	383	2YrSCS24Hr	0.11	92.34	92.51	92.44	92.52	0.003262	0.40	0.27	2.21	0.36
River 1	Reach 1-Upper	383	5YrSCS24Hr	0.18	92.34	92.61	92.47	92.62	0.001389	0.34	0.52	2.77	0.25
River 1	Reach 1-Upper	383	10YrSCS24Hr	0.23	92.34	92.73	92.49	92.73	0.000520	0.26	0.88	3.42	0.16
River 1	Reach 1-Upper	383	25YrSCS24Hr	0.29	92.34	92.93	92.51	92.93	0.000147	0.18	1.66	4.73	0.09

HEC-RAS Plan: 20250603-Pre_Dev_v01 (Continued)

River	Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
River 1	Reach 1-Upper	383	50YrSCS24Hr	0.34	92.34	93.12	92.53	93.12	0.000005	0.04	15.00	51.87	0.02
River 1	Reach 1-Upper	383	100YrSCS24Hr	0.40	92.34	93.30	92.54	93.30	0.000002	0.03	24.70	52.43	0.01
River 1	Reach 1-Upper	364	2YrCHI3Hr	0.07	92.23	92.43	92.33	92.43	0.001355	0.26	0.26	2.01	0.23
River 1	Reach 1-Upper	364	5YrCHI3Hr	0.12	92.23	92.50	92.36	92.50	0.001099	0.29	0.42	2.37	0.22
River 1	Reach 1-Upper	364	10YrCHI3Hr	0.16	92.23	92.57	92.38	92.57	0.000740	0.27	0.59	2.71	0.19
River 1	Reach 1-Upper	364	25YrCHI3Hr	0.22	92.23	92.70	92.40	92.70	0.000331	0.22	0.98	3.34	0.13
River 1	Reach 1-Upper	364	50YrCHI3Hr	0.26	92.23	92.83	92.42	92.83	0.000166	0.18	1.48	4.20	0.10
River 1	Reach 1-Upper	364	100YrCHI3Hr	0.31	92.23	92.99	92.43	92.99	0.000050	0.12	4.53	43.93	0.06
River 1	Reach 1-Upper	364	2YrSCS24Hr	0.11	92.23	92.48	92.35	92.48	0.001197	0.29	0.37	2.27	0.23
River 1	Reach 1-Upper	364	5YrSCS24Hr	0.18	92.23	92.60	92.39	92.60	0.000621	0.26	0.67	2.85	0.17
River 1	Reach 1-Upper	364	10YrSCS24Hr	0.23	92.23	92.72	92.41	92.73	0.000283	0.21	1.07	3.47	0.12
River 1	Reach 1-Upper	364	25YrSCS24Hr	0.29	92.23	92.92	92.43	92.93	0.000099	0.15	1.93	5.59	0.08
River 1	Reach 1-Upper	364	50YrSCS24Hr	0.34	92.23	93.12	92.44	93.12	0.000012	0.07	9.97	44.25	0.03
River 1	Reach 1-Upper	364	100YrSCS24Hr	0.40	92.23	93.30	92.46	93.30	0.000003	0.04	18.26	45.01	0.01
River 1	Reach 1-Upper	347	2YrCHI3Hr	0.07	92.26	92.40	92.33	92.41	0.001382	0.24	0.27	2.45	0.23
River 1	Reach 1-Upper	347	5YrCHI3Hr	0.12	92.26	92.49	92.35	92.49	0.000808	0.25	0.49	2.80	0.19
River 1	Reach 1-Upper	347	10YrCHI3Hr	0.16	92.26	92.56	92.36	92.56	0.000488	0.23	0.71	3.12	0.15
River 1	Reach 1-Upper	347	25YrCHI3Hr	0.22	92.26	92.69	92.38	92.70	0.000213	0.19	1.16	3.69	0.11
River 1	Reach 1-Upper	347	50YrCHI3Hr	0.26	92.26	92.83	92.40	92.83	0.000107	0.15	1.71	4.28	0.08
River 1	Reach 1-Upper	347	100YrCHI3Hr	0.31	92.26	92.99	92.41	92.99	0.000050	0.13	2.54	7.35	0.06
River 1	Reach 1-Upper	347	2YrSCS24Hr	0.11	92.26	92.46	92.34	92.47	0.000932	0.25	0.43	2.71	0.20
River 1	Reach 1-Upper	347	5YrSCS24Hr	0.18	92.26	92.59	92.37	92.59	0.000403	0.22	0.80	3.25	0.14
River 1	Reach 1-Upper	347	10YrSCS24Hr	0.23	92.26	92.72	92.39	92.72	0.000183	0.18	1.26	3.81	0.10
River 1	Reach 1-Upper	347	25YrSCS24Hr	0.29	92.26	92.92	92.41	92.92	0.000071	0.14	2.13	5.02	0.07
River 1	Reach 1-Upper	347	50YrSCS24Hr	0.34	92.26	93.12	92.42	93.12	0.000020	0.09	6.30	37.59	0.04
River 1	Reach 1-Upper	347	100YrSCS24Hr	0.40	92.26	93.30	92.43	93.30	0.000005	0.06	13.35	38.07	0.02
River 1	Reach 1-Upper	328	2YrCHI3Hr	0.07	92.20	92.37	92.28	92.38	0.001873	0.30	0.22	1.82	0.27
River 1	Reach 1-Upper	328	5YrCHI3Hr	0.12	92.20	92.47	92.32	92.47	0.001020	0.29	0.42	2.24	0.21
River 1	Reach 1-Upper	328	10YrCHI3Hr	0.16	92.20	92.55	92.34	92.55	0.000618	0.26	0.61	2.58	0.17
River 1	Reach 1-Upper	328	25YrCHI3Hr	0.22	92.20	92.69	92.36	92.69	0.000277	0.21	1.02	3.16	0.12
River 1	Reach 1-Upper	328	50YrCHI3Hr	0.26	92.20	92.83	92.38	92.83	0.000152	0.17	1.51	4.11	0.09
River 1	Reach 1-Upper	328	100YrCHI3Hr	0.31	92.20	92.99	92.40	92.99	0.000074	0.14	2.26	5.12	0.07
River 1	Reach 1-Upper	328	2YrSCS24Hr	0.11	92.20	92.44	92.31	92.45	0.001182	0.29	0.36	2.14	0.23
River 1	Reach 1-Upper	328	5YrSCS24Hr	0.18	92.20	92.58	92.34	92.58	0.000513	0.25	0.70	2.71	0.16
River 1	Reach 1-Upper	328	10YrSCS24Hr	0.23	92.20	92.72	92.36	92.72	0.000240	0.21	1.11	3.28	0.11
River 1	Reach 1-Upper	328	25YrSCS24Hr	0.29	92.20	92.92	92.39	92.92	0.000098	0.15	1.92	4.61	0.07
River 1	Reach 1-Upper	328	50YrSCS24Hr	0.34	92.20	93.12	92.40	93.12	0.000035	0.11	4.57	29.52	0.05
River 1	Reach 1-Upper	328	100YrSCS24Hr	0.40	92.20	93.30	92.42	93.30	0.000009	0.06	10.13	29.96	0.02
River 1	Reach 1-Upper	306	2YrCHI3Hr	0.07	92.07	92.35	92.18	92.35	0.000722	0.25	0.27	1.49	0.18
River 1	Reach 1-Upper	306	5YrCHI3Hr	0.12	92.07	92.45	92.23	92.45	0.000689	0.30	0.40	1.84	0.18
River 1	Reach 1-Upper	306	10YrCHI3Hr	0.16	92.07	92.53	92.25	92.54	0.000559	0.31	0.52	2.13	0.17
River 1	Reach 1-Upper	306	25YrCHI3Hr	0.22	92.07	92.68	92.28	92.68	0.000321	0.29	0.74	2.69	0.13
River 1	Reach 1-Upper	306	50YrCHI3Hr	0.26	92.07	92.82	92.30	92.82	0.000203	0.28	0.95	3.29	0.11
River 1	Reach 1-Upper	306	100YrCHI3Hr	0.31	92.07	92.99	92.32	92.99	0.000131	0.26	1.20	4.54	0.09
River 1	Reach 1-Upper	306	2YrSCS24Hr	0.11	92.07	92.42	92.21	92.43	0.000712	0.29	0.37	1.75	0.18
River 1	Reach 1-Upper	306	5YrSCS24Hr	0.18	92.07	92.57	92.26	92.57	0.000497	0.31	0.58	2.25	0.16
River 1	Reach 1-Upper	306	10YrSCS24Hr	0.23	92.07	92.71	92.28	92.71	0.000290	0.29	0.79	2.81	0.13
River 1	Reach 1-Upper	306	25YrSCS24Hr	0.29	92.07	92.91	92.31	92.92	0.000156	0.27	1.10	3.90	0.10
River 1	Reach 1-Upper	306	50YrSCS24Hr	0.34	92.07	93.11	92.33	93.11	0.000098	0.25	1.39	20.53	0.08
River 1	Reach 1-Upper	306	100YrSCS24Hr	0.40	92.07	93.30	92.36	93.30	0.000072	0.24	1.67	20.98	0.07
River 1	Reach 1-Upper	300		Culvert									
River 1	Reach 1-Upper	294	2YrCHI3Hr	0.07	92.15	92.32	92.23	92.32	0.001567	0.31	0.22	2.08	0.26
River 1	Reach 1-Upper	294	5YrCHI3Hr	0.12	92.15	92.37	92.26	92.38	0.001840	0.41	0.29	2.34	0.30
River 1	Reach 1-Upper	294	10YrCHI3Hr	0.16	92.15	92.39	92.28	92.41	0.002165	0.49	0.33	2.48	0.33
River 1	Reach 1-Upper	294	25YrCHI3Hr	0.22	92.15	92.42	92.30	92.44	0.002528	0.57	0.38	2.64	0.36
River 1	Reach 1-Upper	294	50YrCHI3Hr	0.26	92.15	92.45	92.32	92.47	0.002769	0.63	0.41	2.76	0.38
River 1	Reach 1-Upper	294	100YrCHI3Hr	0.31	92.15	92.47	92.33	92.49	0.002956	0.69	0.45	2.87	0.40
River 1	Reach 1-Upper	294	2YrSCS24Hr	0.11	92.15	92.36	92.25	92.36	0.001762	0.39	0.28	2.28	0.29
River 1	Reach 1-Upper	294	5YrSCS24Hr	0.18	92.15	92.40	92.28	92.41	0.002296	0.51	0.35	2.52	0.34
River 1	Reach 1-Upper	294	10YrSCS24Hr	0.23	92.15	92.43	92.30	92.45	0.002610	0.59	0.39	2.66	0.37
River 1	Reach 1-Upper	294	25YrSCS24Hr	0.29	92.15	92.46	92.33	92.48	0.002895	0.67	0.43	2.82	0.40
River 1	Reach 1-Upper	294	50YrSCS24Hr	0.34	92.15	92.48	92.35	92.51	0.003128	0.73	0.47	2.94	0.42
River 1	Reach 1-Upper	294	100YrSCS24Hr	0.40	92.15	92.50	92.36	92.54	0.003396	0.80	0.50	3.05	0.44
River 1	Reach 1-Upper	279	2YrCHI3Hr	0.08	92.08	92.21	92.21	92.24	0.029991	0.80	0.10	1.51	0.99
River 1	Reach 1-Upper	279	5YrCHI3Hr	0.15	92.08	92.25	92.24	92.29	0.026320	0.91	0.16	1.84	0.98
River 1	Reach 1-Upper	279	10YrCHI3Hr	0.20	92.08	92.28		92.32	0.017826	0.87	0.23	2.04	0.83
River 1	Reach 1-Upper	279	25YrCHI3Hr	0.27	92.08	92.32		92.36	0.013314	0.86	0.31	2.27	0.74
River 1	Reach 1-Upper	279	50YrCHI3Hr	0.32	92.08	92.34		92.38	0.011695	0.87	0.37	2.42	0.71
River 1	Reach 1-Upper	279	100YrCHI3Hr	0.38	92.08	92.37		92.41	0.010643	0.88	0.43	2.57	0.69
River 1	Reach 1-Upper	279	2YrSCS24Hr	0.13	92.08	92.23	92.23	92.28	0.029039	0.90	0.14	1.75	1.01
River 1	Reach 1-Upper	279	5YrSCS24Hr	0.22	92.08	92.29		92.33	0.015917	0.86	0.25	2.10	0.80
River 1	Reach 1-Upper	279	10YrSCS24Hr	0.28	92.08	92.32		92.36	0.012955	0.86	0.32	2.30	0.74
River 1	Reach 1-Upper	279	25YrSCS24Hr	0.36	92.08	92.36		92.40	0.011055	0.88	0.41	2.51	0.70
River 1	Reach 1-Upper	279	50YrSCS24Hr	0.42	92.08	92.38		92.42	0.010063	0.89	0.47	2.66	0.67
River 1	Reach 1-Upper	279	100YrSCS24Hr	0.49	92.08	92.41		92.45	0.009502	0.91	0.54	2.81	0.66
River 1	Reach 1-Upper	277	2YrCHI3Hr	0.08	91.95	92.20		92.21	0.000695	0.21	0.39	2.70	0.17
River 1	Reach 1-Upper	277	5YrCHI3Hr	0.15	91.95	92.26		92.26	0.000856	0.28	0.54	3.02	0.20
River 1	Reach 1-Upper	277	10YrCHI3Hr	0.20	91.95	92.29		92.30	0.000927	0.32	0.64	3.19	0.21
River 1	Reach 1-Upper	277	25YrCHI3Hr	0.27	91.95	92.33		92.33	0.001006	0.37	0.76	3.41	0.23
River 1	Reach 1-Upper	277	50YrCHI3Hr	0.32	91.95	92.35		92.36	0.001068	0.41	0.85	3.55	0.24
River 1	Reach 1-Upper	277	100YrCHI3Hr	0.38	91.95	92.38		92.39	0.001131	0.44	0.95	3.69	0.25
River 1	Reach 1-Upper	277	2YrSCS24Hr	0.13	91.95	92.25		92.25	0.000826	0.26	0.50	2.94	0.20

HEC-RAS Plan: 20250603-Pre_Dev_v01 (Continued)

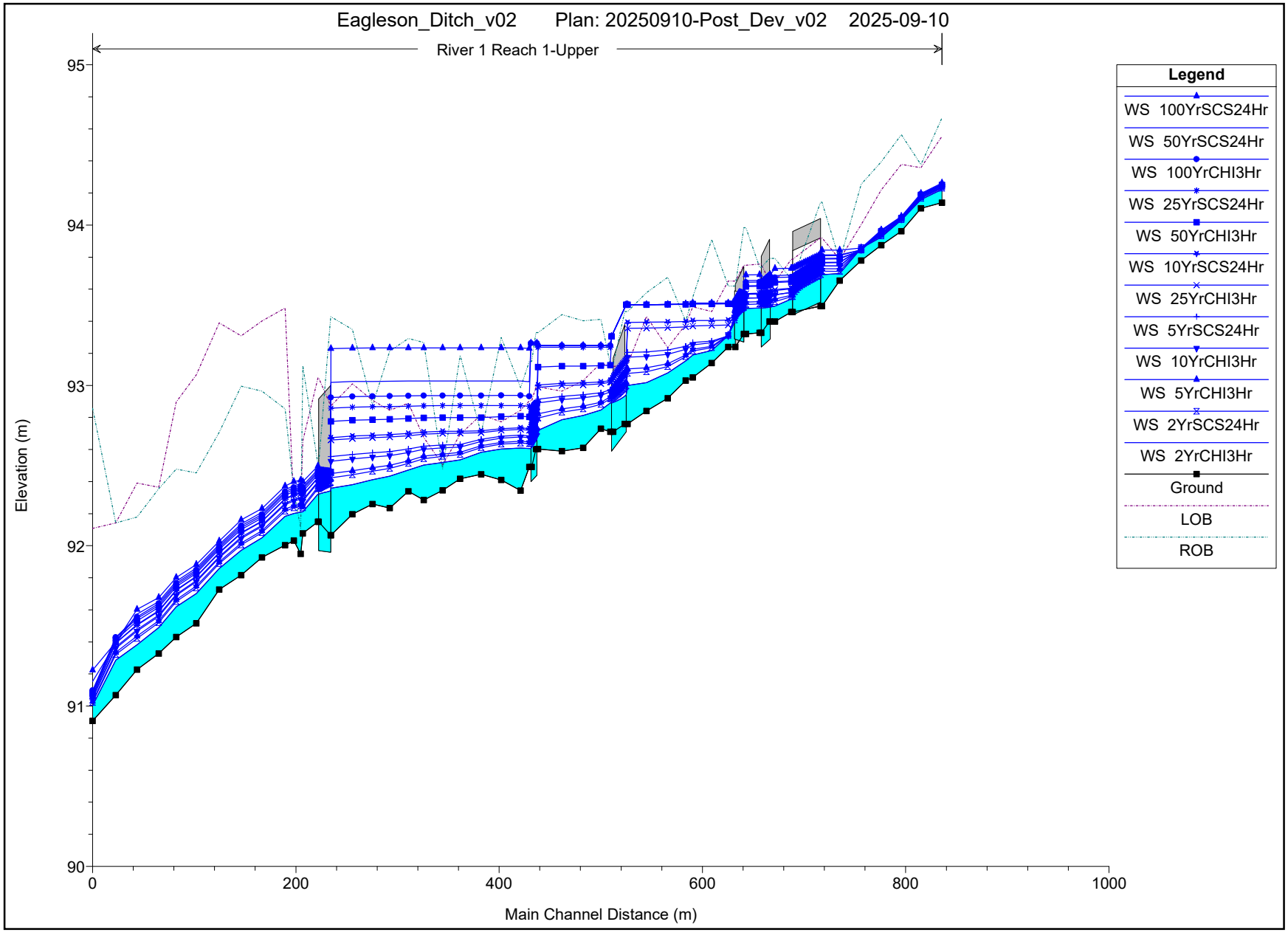
River	Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
River 1	Reach 1-Upper	277	5YrSCS24Hr	0.22	91.95	92.30		92.31	0.000941	0.33	0.68	3.25	0.22
River 1	Reach 1-Upper	277	10YrSCS24Hr	0.28	91.95	92.33		92.34	0.001018	0.38	0.78	3.43	0.23
River 1	Reach 1-Upper	277	25YrSCS24Hr	0.36	91.95	92.37		92.38	0.001104	0.43	0.91	3.63	0.25
River 1	Reach 1-Upper	277	50YrSCS24Hr	0.42	91.95	92.39		92.40	0.001159	0.46	1.00	3.77	0.26
River 1	Reach 1-Upper	277	100YrSCS24Hr	0.49	91.95	92.42		92.43	0.001229	0.50	1.09	3.91	0.27
River 1	Reach 1-Upper	270	2YrCHI3Hr	0.08	92.03	92.20		92.20	0.001692	0.27	0.29	2.60	0.26
River 1	Reach 1-Upper	270	5YrCHI3Hr	0.15	92.03	92.25		92.25	0.001753	0.33	0.45	3.07	0.27
River 1	Reach 1-Upper	270	10YrCHI3Hr	0.20	92.03	92.28		92.29	0.001743	0.36	0.55	3.36	0.28
River 1	Reach 1-Upper	270	25YrCHI3Hr	0.27	92.03	92.32		92.33	0.001732	0.40	0.68	3.72	0.29
River 1	Reach 1-Upper	270	50YrCHI3Hr	0.32	92.03	92.34		92.35	0.001721	0.42	0.78	4.13	0.29
River 1	Reach 1-Upper	270	100YrCHI3Hr	0.38	92.03	92.37		92.38	0.001663	0.45	0.90	5.00	0.29
River 1	Reach 1-Upper	270	2YrSCS24Hr	0.13	92.03	92.24		92.24	0.001760	0.32	0.40	2.95	0.27
River 1	Reach 1-Upper	270	5YrSCS24Hr	0.22	92.03	92.29		92.30	0.001717	0.37	0.58	3.47	0.28
River 1	Reach 1-Upper	270	10YrSCS24Hr	0.28	92.03	92.32		92.33	0.001734	0.40	0.70	3.76	0.29
River 1	Reach 1-Upper	270	25YrSCS24Hr	0.36	92.03	92.36		92.37	0.001687	0.44	0.84	4.62	0.29
River 1	Reach 1-Upper	270	50YrSCS24Hr	0.42	92.03	92.38		92.39	0.001617	0.46	0.97	5.51	0.29
River 1	Reach 1-Upper	270	100YrSCS24Hr	0.49	92.03	92.41		92.42	0.001578	0.48	1.11	5.76	0.29
River 1	Reach 1-Upper	261	2YrCHI3Hr	0.08	92.00	92.18	92.10	92.18	0.002216	0.32	0.25	2.09	0.30
River 1	Reach 1-Upper	261	5YrCHI3Hr	0.15	92.00	92.23	92.13	92.24	0.002543	0.41	0.36	2.34	0.33
River 1	Reach 1-Upper	261	10YrCHI3Hr	0.20	92.00	92.26	92.15	92.27	0.002719	0.46	0.43	2.48	0.35
River 1	Reach 1-Upper	261	25YrCHI3Hr	0.27	92.00	92.29	92.18	92.31	0.002882	0.51	0.52	2.66	0.37
River 1	Reach 1-Upper	261	50YrCHI3Hr	0.32	92.00	92.32	92.19	92.33	0.003012	0.55	0.59	2.78	0.38
River 1	Reach 1-Upper	261	100YrCHI3Hr	0.38	92.00	92.34	92.21	92.36	0.003124	0.58	0.66	2.90	0.39
River 1	Reach 1-Upper	261	2YrSCS24Hr	0.13	92.00	92.22	92.12	92.22	0.002466	0.39	0.33	2.27	0.32
River 1	Reach 1-Upper	261	5YrSCS24Hr	0.22	92.00	92.27	92.16	92.28	0.002719	0.47	0.46	2.53	0.35
River 1	Reach 1-Upper	261	10YrSCS24Hr	0.28	92.00	92.30	92.18	92.31	0.002908	0.52	0.54	2.68	0.37
River 1	Reach 1-Upper	261	25YrSCS24Hr	0.36	92.00	92.33	92.20	92.35	0.003077	0.57	0.63	2.84	0.38
River 1	Reach 1-Upper	261	50YrSCS24Hr	0.42	92.00	92.36	92.22	92.38	0.003155	0.60	0.70	2.97	0.39
River 1	Reach 1-Upper	261	100YrSCS24Hr	0.49	92.00	92.38	92.24	92.40	0.003314	0.63	0.77	3.10	0.41
River 1	Reach 1-Upper	239	2YrCHI3Hr	0.08	91.93	92.05	92.03	92.07	0.018146	0.68	0.12	1.54	0.79
River 1	Reach 1-Upper	239	5YrCHI3Hr	0.15	91.93	92.09	92.07	92.12	0.014163	0.75	0.20	1.88	0.73
River 1	Reach 1-Upper	239	10YrCHI3Hr	0.20	91.93	92.12	92.09	92.15	0.012598	0.78	0.25	2.06	0.71
River 1	Reach 1-Upper	239	25YrCHI3Hr	0.27	91.93	92.15	92.12	92.19	0.011181	0.82	0.33	2.23	0.69
River 1	Reach 1-Upper	239	50YrCHI3Hr	0.32	91.93	92.18	92.13	92.21	0.010479	0.85	0.38	2.36	0.68
River 1	Reach 1-Upper	239	100YrCHI3Hr	0.38	91.93	92.20	92.15	92.24	0.009912	0.88	0.44	2.49	0.67
River 1	Reach 1-Upper	239	2YrSCS24Hr	0.13	91.93	92.08	92.06	92.11	0.014943	0.73	0.18	1.79	0.75
River 1	Reach 1-Upper	239	5YrSCS24Hr	0.22	91.93	92.13	92.10	92.16	0.012137	0.79	0.27	2.10	0.70
River 1	Reach 1-Upper	239	10YrSCS24Hr	0.28	91.93	92.16	92.12	92.19	0.011036	0.83	0.34	2.26	0.68
River 1	Reach 1-Upper	239	25YrSCS24Hr	0.36	91.93	92.19	92.14	92.23	0.010147	0.86	0.41	2.43	0.67
River 1	Reach 1-Upper	239	50YrSCS24Hr	0.42	91.93	92.22	92.16	92.26	0.009585	0.89	0.47	2.56	0.66
River 1	Reach 1-Upper	239	100YrSCS24Hr	0.49	91.93	92.24	92.18	92.28	0.009080	0.91	0.54	2.69	0.65
River 1	Reach 1-Upper	218	2YrCHI3Hr	0.08	91.82	91.97	91.89	91.97	0.002000	0.29	0.27	2.48	0.28
River 1	Reach 1-Upper	218	5YrCHI3Hr	0.15	91.82	92.02	91.92	92.02	0.002151	0.37	0.40	2.72	0.30
River 1	Reach 1-Upper	218	10YrCHI3Hr	0.20	91.82	92.05	91.94	92.05	0.002198	0.40	0.49	2.86	0.31
River 1	Reach 1-Upper	218	25YrCHI3Hr	0.27	91.82	92.08	91.96	92.09	0.002327	0.45	0.59	3.03	0.33
River 1	Reach 1-Upper	218	50YrCHI3Hr	0.32	91.82	92.11	91.98	92.12	0.002390	0.49	0.67	3.15	0.34
River 1	Reach 1-Upper	218	100YrCHI3Hr	0.38	91.82	92.13	91.99	92.14	0.002438	0.52	0.75	3.27	0.34
River 1	Reach 1-Upper	218	2YrSCS24Hr	0.13	91.82	92.00	91.92	92.01	0.002117	0.35	0.37	2.66	0.30
River 1	Reach 1-Upper	218	5YrSCS24Hr	0.22	91.82	92.06	91.95	92.06	0.002238	0.42	0.51	2.91	0.32
River 1	Reach 1-Upper	218	10YrSCS24Hr	0.28	91.82	92.09	91.96	92.10	0.002340	0.46	0.60	3.05	0.33
River 1	Reach 1-Upper	218	25YrSCS24Hr	0.36	91.82	92.12	91.98	92.13	0.002418	0.50	0.71	3.22	0.34
River 1	Reach 1-Upper	218	50YrSCS24Hr	0.42	91.82	92.14	92.00	92.16	0.002473	0.53	0.79	3.36	0.35
River 1	Reach 1-Upper	218	100YrSCS24Hr	0.49	91.82	92.17	92.02	92.19	0.002504	0.56	0.88	3.53	0.35
River 1	Reach 1-Upper	197	2YrCHI3Hr	0.08	91.73	91.85	91.84	91.87	0.016181	0.66	0.12	1.55	0.75
River 1	Reach 1-Upper	197	5YrCHI3Hr	0.15	91.73	91.90	91.87	91.93	0.013293	0.73	0.20	1.87	0.72
River 1	Reach 1-Upper	197	10YrCHI3Hr	0.20	91.73	91.93	91.89	91.96	0.012335	0.78	0.25	2.02	0.71
River 1	Reach 1-Upper	197	25YrCHI3Hr	0.27	91.73	91.96	91.92	91.99	0.011527	0.84	0.32	2.18	0.70
River 1	Reach 1-Upper	197	50YrCHI3Hr	0.32	91.73	91.98	91.94	92.02	0.010809	0.87	0.37	2.29	0.69
River 1	Reach 1-Upper	197	100YrCHI3Hr	0.38	91.73	92.00	91.96	92.04	0.010540	0.91	0.42	2.39	0.69
River 1	Reach 1-Upper	197	2YrSCS24Hr	0.13	91.73	91.89	91.87	91.91	0.013973	0.71	0.18	1.81	0.72
River 1	Reach 1-Upper	197	5YrSCS24Hr	0.22	91.73	91.93	91.90	91.97	0.012083	0.80	0.27	2.06	0.70
River 1	Reach 1-Upper	197	10YrSCS24Hr	0.28	91.73	91.96	91.92	92.00	0.011418	0.84	0.33	2.20	0.70
River 1	Reach 1-Upper	197	25YrSCS24Hr	0.36	91.73	91.99	91.95	92.03	0.010650	0.89	0.40	2.34	0.69
River 1	Reach 1-Upper	197	50YrSCS24Hr	0.42	91.73	92.02	91.97	92.06	0.010407	0.93	0.45	2.44	0.69
River 1	Reach 1-Upper	197	100YrSCS24Hr	0.49	91.73	92.04	91.99	92.08	0.010221	0.96	0.51	2.55	0.69
River 1	Reach 1-Upper	174	2YrCHI3Hr	0.08	91.52	91.70	91.63	91.71	0.004212	0.41	0.19	1.80	0.40
River 1	Reach 1-Upper	174	5YrCHI3Hr	0.15	91.52	91.75	91.67	91.76	0.004464	0.50	0.30	2.17	0.43
River 1	Reach 1-Upper	174	10YrCHI3Hr	0.20	91.52	91.78	91.69	91.79	0.004633	0.55	0.36	2.31	0.45
River 1	Reach 1-Upper	174	25YrCHI3Hr	0.27	91.52	91.81	91.72	91.83	0.004788	0.61	0.44	2.47	0.46
River 1	Reach 1-Upper	174	50YrCHI3Hr	0.32	91.52	91.83	91.74	91.85	0.004947	0.65	0.50	2.58	0.48
River 1	Reach 1-Upper	174	100YrCHI3Hr	0.38	91.52	91.85	91.76	91.88	0.005078	0.69	0.56	2.69	0.49
River 1	Reach 1-Upper	174	2YrSCS24Hr	0.13	91.52	91.74	91.66	91.75	0.004366	0.47	0.27	2.08	0.42
River 1	Reach 1-Upper	174	5YrSCS24Hr	0.22	91.52	91.78	91.70	91.80	0.004685	0.57	0.38	2.35	0.45
River 1	Reach 1-Upper	174	10YrSCS24Hr	0.28	91.52	91.81	91.73	91.83	0.004821	0.62	0.45	2.49	0.46
River 1	Reach 1-Upper	174	25YrSCS24Hr	0.36	91.52	91.84	91.75	91.87	0.005024	0.67	0.53	2.65	0.48
River 1	Reach 1-Upper	174	50YrSCS24Hr	0.42	91.52	91.87	91.77	91.89	0.005141	0.71	0.59	2.76	0.49
River 1	Reach 1-Upper	174	100YrSCS24Hr	0.49	91.52	91.89	91.79	91.92	0.005179	0.75	0.66	2.87	0.50
River 1	Reach 1-Upper	154	2YrCHI3Hr	0.08	91.43	91.61	91.56	91.62	0.004328	0.39	0.21	2.16	0.40
River 1	Reach 1-Upper	154	5YrCHI3Hr	0.15	91.43	91.66	91.59	91.67	0.004181	0.46	0.32	2.60	0.41
River 1	Reach 1-Upper	154	10YrCHI3Hr	0.20	91.43	91.69	91.61	91.70	0.004190	0.49	0.40	2.83	0.42
River 1	Reach 1-Upper	154	25YrCHI3Hr	0.27	91.43	91.72	91.64	91.74	0.004087	0.53	0.50	3.11	0.42
River 1	Reach 1-Upper	154	50YrCHI3Hr	0.32	91.43	91.75	91.65	91.76	0.003985	0.56	0.58	3.28	0.43
River 1	Reach 1-Upper	154	100YrCHI3Hr	0.38	91.43	91.77	91.67	91.79	0.003882	0.58	0.66	3.44	0.43

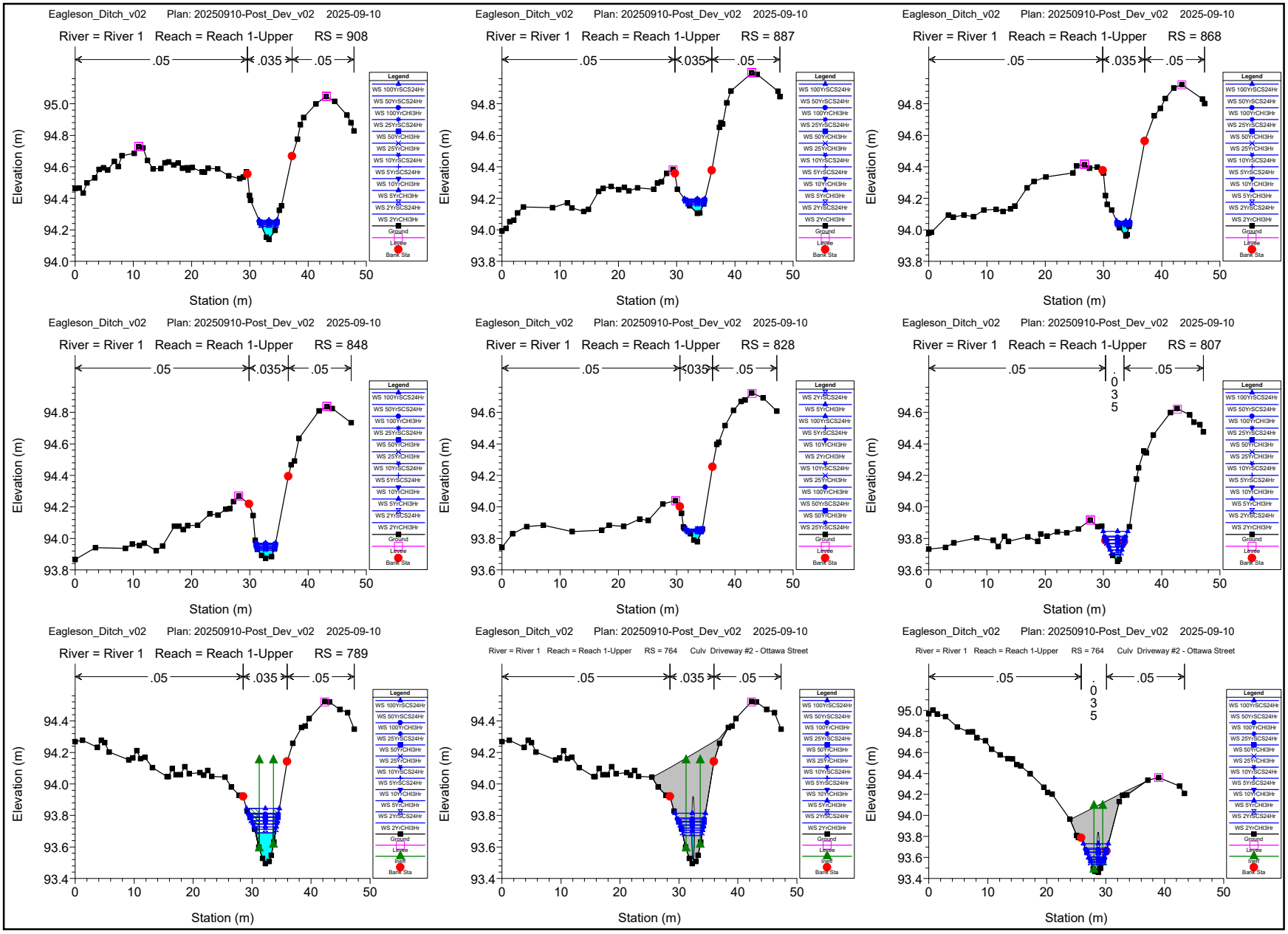
HEC-RAS Plan: 20250603-Pre_Dev_v01 (Continued)

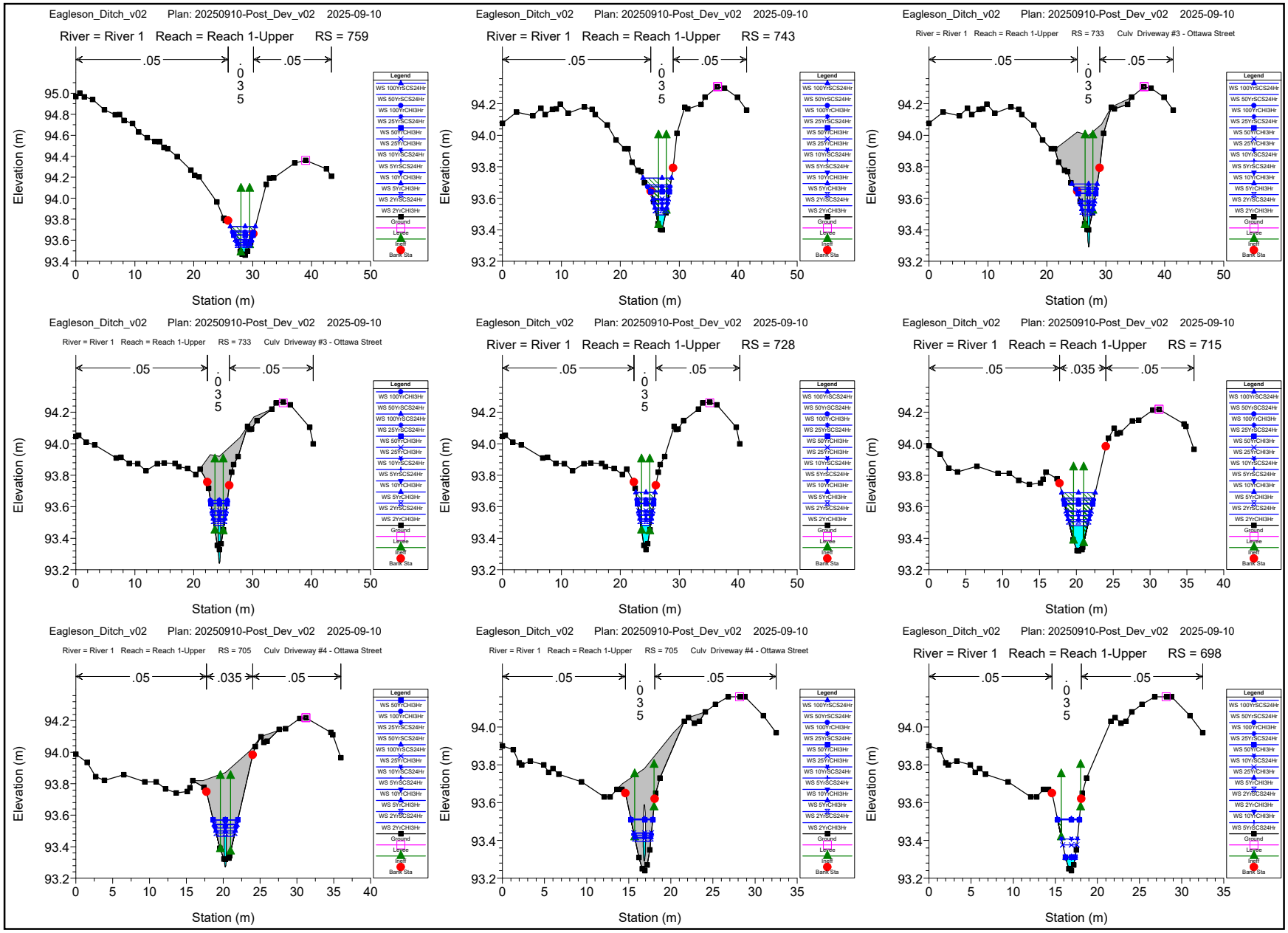
River	Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
River 1	Reach 1-Upper	154	2YrSCS24Hr	0.13	91.43	91.65	91.58	91.66	0.004251	0.44	0.29	2.49	0.41
River 1	Reach 1-Upper	154	5YrSCS24Hr	0.22	91.43	91.70	91.62	91.71	0.004167	0.51	0.43	2.91	0.42
River 1	Reach 1-Upper	154	10YrSCS24Hr	0.28	91.43	91.73	91.64	91.74	0.004071	0.54	0.51	3.14	0.43
River 1	Reach 1-Upper	154	25YrSCS24Hr	0.36	91.43	91.76	91.66	91.78	0.003925	0.57	0.62	3.37	0.43
River 1	Reach 1-Upper	154	50YrSCS24Hr	0.42	91.43	91.79	91.68	91.80	0.003830	0.60	0.71	3.53	0.43
River 1	Reach 1-Upper	154	100YrSCS24Hr	0.49	91.43	91.81	91.70	91.83	0.003747	0.62	0.79	3.69	0.43
River 1	Reach 1-Upper	137	2YrCHI3Hr	0.08	91.33	91.48	91.46	91.50	0.012189	0.63	0.13	1.39	0.66
River 1	Reach 1-Upper	137	5YrCHI3Hr	0.15	91.33	91.53	91.50	91.56	0.011338	0.73	0.20	1.65	0.67
River 1	Reach 1-Upper	137	10YrCHI3Hr	0.20	91.33	91.56	91.52	91.59	0.011017	0.79	0.25	1.80	0.67
River 1	Reach 1-Upper	137	25YrCHI3Hr	0.27	91.33	91.60	91.55	91.63	0.010550	0.84	0.32	1.99	0.67
River 1	Reach 1-Upper	137	50YrCHI3Hr	0.32	91.33	91.62	91.57	91.66	0.010206	0.88	0.37	2.12	0.67
River 1	Reach 1-Upper	137	100YrCHI3Hr	0.38	91.33	91.65	91.59	91.69	0.009820	0.90	0.42	2.25	0.66
River 1	Reach 1-Upper	137	2YrSCS24Hr	0.13	91.33	91.52	91.49	91.54	0.011464	0.71	0.18	1.58	0.67
River 1	Reach 1-Upper	137	5YrSCS24Hr	0.22	91.33	91.57	91.53	91.60	0.010898	0.80	0.27	1.85	0.67
River 1	Reach 1-Upper	137	10YrSCS24Hr	0.28	91.33	91.60	91.55	91.64	0.010487	0.85	0.33	2.01	0.67
River 1	Reach 1-Upper	137	25YrSCS24Hr	0.36	91.33	91.63	91.58	91.68	0.009938	0.89	0.40	2.20	0.67
River 1	Reach 1-Upper	137	50YrSCS24Hr	0.42	91.33	91.66	91.60	91.70	0.009574	0.92	0.46	2.33	0.66
River 1	Reach 1-Upper	137	100YrSCS24Hr	0.49	91.33	91.69	91.62	91.73	0.009283	0.95	0.52	2.46	0.66
River 1	Reach 1-Upper	116	2YrCHI3Hr	0.08	91.23	91.38	91.32	91.39	0.003082	0.36	0.22	2.06	0.35
River 1	Reach 1-Upper	116	5YrCHI3Hr	0.15	91.23	91.43	91.35	91.44	0.002930	0.42	0.35	2.36	0.35
River 1	Reach 1-Upper	116	10YrCHI3Hr	0.20	91.23	91.47	91.37	91.48	0.002864	0.46	0.43	2.55	0.36
River 1	Reach 1-Upper	116	25YrCHI3Hr	0.27	91.23	91.51	91.39	91.52	0.002818	0.50	0.54	2.77	0.36
River 1	Reach 1-Upper	116	50YrCHI3Hr	0.32	91.23	91.54	91.41	91.55	0.002807	0.52	0.62	2.92	0.36
River 1	Reach 1-Upper	116	100YrCHI3Hr	0.38	91.23	91.56	91.42	91.58	0.002814	0.55	0.70	3.06	0.37
River 1	Reach 1-Upper	116	2YrSCS24Hr	0.13	91.23	91.42	91.34	91.43	0.002964	0.41	0.31	2.29	0.35
River 1	Reach 1-Upper	116	5YrSCS24Hr	0.22	91.23	91.48	91.37	91.49	0.002843	0.47	0.46	2.61	0.36
River 1	Reach 1-Upper	116	10YrSCS24Hr	0.28	91.23	91.51	91.39	91.53	0.002817	0.50	0.55	2.79	0.36
River 1	Reach 1-Upper	116	25YrSCS24Hr	0.36	91.23	91.55	91.42	91.57	0.002792	0.54	0.66	3.00	0.37
River 1	Reach 1-Upper	116	50YrSCS24Hr	0.42	91.23	91.58	91.43	91.60	0.002600	0.55	0.76	3.16	0.36
River 1	Reach 1-Upper	116	100YrSCS24Hr	0.49	91.23	91.61	91.45	91.63	0.002607	0.58	0.85	3.28	0.36
River 1	Reach 1-Upper	95	2YrCHI3Hr	0.08	91.07	91.28	91.23	91.29	0.006001	0.51	0.16	1.35	0.48
River 1	Reach 1-Upper	95	5YrCHI3Hr	0.15	91.07	91.33	91.27	91.35	0.006981	0.63	0.23	1.60	0.53
River 1	Reach 1-Upper	95	10YrCHI3Hr	0.20	91.07	91.36	91.30	91.39	0.007514	0.71	0.28	1.73	0.56
River 1	Reach 1-Upper	95	25YrCHI3Hr	0.27	91.07	91.39	91.33	91.43	0.008051	0.78	0.34	1.89	0.59
River 1	Reach 1-Upper	95	50YrCHI3Hr	0.32	91.07	91.42	91.35	91.45	0.008531	0.84	0.38	1.99	0.61
River 1	Reach 1-Upper	95	100YrCHI3Hr	0.38	91.07	91.42	91.37	91.47	0.011364	0.98	0.39	2.01	0.71
River 1	Reach 1-Upper	95	2YrSCS24Hr	0.13	91.07	91.32	91.26	91.34	0.006833	0.61	0.21	1.53	0.52
River 1	Reach 1-Upper	95	5YrSCS24Hr	0.22	91.07	91.37	91.30	91.40	0.007484	0.72	0.30	1.78	0.56
River 1	Reach 1-Upper	95	10YrSCS24Hr	0.28	91.07	91.40	91.33	91.43	0.008260	0.80	0.35	1.90	0.60
River 1	Reach 1-Upper	95	25YrSCS24Hr	0.36	91.07	91.43	91.36	91.47	0.008800	0.87	0.41	2.08	0.63
River 1	Reach 1-Upper	95	50YrSCS24Hr	0.42	91.07	91.39	91.38	91.47	0.022828	1.30	0.32	1.85	0.99
River 1	Reach 1-Upper	95	100YrSCS24Hr	0.49	91.07	91.41	91.41	91.50	0.022422	1.34	0.37	1.95	0.99
River 1	Reach 1-Upper	72	2YrCHI3Hr	0.08	90.91	91.00	91.00	91.03	0.030836	0.74	0.11	1.93	0.99
River 1	Reach 1-Upper	72	5YrCHI3Hr	0.15	90.91	91.03	91.03	91.07	0.028202	0.84	0.18	2.40	0.99
River 1	Reach 1-Upper	72	10YrCHI3Hr	0.20	90.91	91.05	91.05	91.09	0.027394	0.90	0.22	2.63	0.99
River 1	Reach 1-Upper	72	25YrCHI3Hr	0.27	90.91	91.07	91.07	91.12	0.026901	0.98	0.27	2.82	1.01
River 1	Reach 1-Upper	72	50YrCHI3Hr	0.32	90.91	91.08	91.08	91.14	0.025605	1.02	0.32	2.96	1.00
River 1	Reach 1-Upper	72	100YrCHI3Hr	0.38	90.91	91.11	91.10	91.16	0.016324	0.92	0.42	3.23	0.82
River 1	Reach 1-Upper	72	2YrSCS24Hr	0.13	90.91	91.02	91.02	91.06	0.027869	0.80	0.16	2.30	0.97
River 1	Reach 1-Upper	72	5YrSCS24Hr	0.22	90.91	91.05	91.05	91.10	0.028793	0.94	0.23	2.67	1.02
River 1	Reach 1-Upper	72	10YrSCS24Hr	0.28	90.91	91.07	91.07	91.12	0.025957	0.98	0.28	2.86	0.99
River 1	Reach 1-Upper	72	25YrSCS24Hr	0.36	90.91	91.09	91.09	91.15	0.025859	1.06	0.34	3.02	1.01
River 1	Reach 1-Upper	72	50YrSCS24Hr	0.42	90.91	91.17	91.11	91.19	0.006772	0.70	0.60	3.69	0.55
River 1	Reach 1-Upper	72	100YrSCS24Hr	0.49	90.91	91.24	91.12	91.26	0.002972	0.55	0.89	4.14	0.38
River 1	Reach 1-Lower	56	2YrCHI3Hr	0.14	90.47	90.73	90.57	90.73	0.000365	0.19	0.73	10.09	0.13
River 1	Reach 1-Lower	56	5YrCHI3Hr	0.26	90.47	90.84	90.60	90.85	0.000293	0.23	1.14	14.27	0.13
River 1	Reach 1-Lower	56	10YrCHI3Hr	0.36	90.47	90.92	90.62	90.92	0.000277	0.26	1.40	17.00	0.13
River 1	Reach 1-Lower	56	25YrCHI3Hr	0.49	90.47	91.01	90.64	91.01	0.000267	0.29	1.71	19.79	0.13
River 1	Reach 1-Lower	56	50YrCHI3Hr	0.60	90.47	91.07	90.66	91.08	0.000264	0.31	1.93	20.02	0.13
River 1	Reach 1-Lower	56	100YrCHI3Hr	0.72	90.47	91.13	90.68	91.14	0.000264	0.34	2.15	20.02	0.14
River 1	Reach 1-Lower	56	2YrSCS24Hr	0.23	90.47	90.82	90.59	90.82	0.000307	0.22	1.05	13.08	0.13
River 1	Reach 1-Lower	56	5YrSCS24Hr	0.40	90.47	90.95	90.63	90.95	0.000273	0.27	1.50	18.26	0.13
River 1	Reach 1-Lower	56	10YrSCS24Hr	0.52	90.47	91.02	90.65	91.02	0.000269	0.29	1.75	19.92	0.13
River 1	Reach 1-Lower	56	25YrSCS24Hr	0.68	90.47	91.11	90.67	91.12	0.000263	0.33	2.07	20.02	0.14
River 1	Reach 1-Lower	56	50YrSCS24Hr	0.80	90.47	91.17	90.70	91.18	0.000261	0.35	2.30	20.02	0.14
River 1	Reach 1-Lower	56	100YrSCS24Hr	0.94	90.47	91.24	90.71	91.25	0.000262	0.37	2.53	20.02	0.14
River 1	Reach 1-Lower	50		Culvert									
River 1	Reach 1-Lower	38	2YrCHI3Hr	0.14	90.46	90.57	90.53	90.58	0.004969	0.42	0.33	30.00	0.43
River 1	Reach 1-Lower	38	5YrCHI3Hr	0.26	90.46	90.60	90.55	90.62	0.006999	0.60	0.44	34.38	0.54
River 1	Reach 1-Lower	38	10YrCHI3Hr	0.36	90.46	90.61	90.57	90.64	0.008612	0.72	0.50	35.69	0.61
River 1	Reach 1-Lower	38	25YrCHI3Hr	0.49	90.46	90.63	90.60	90.67	0.010692	0.87	0.56	36.54	0.70
River 1	Reach 1-Lower	38	50YrCHI3Hr	0.60	90.46	90.64	90.62	90.69	0.012409	0.99	0.61	36.97	0.76
River 1	Reach 1-Lower	38	100YrCHI3Hr	0.72	90.46	90.66	90.64	90.72	0.014104	1.11	0.65	37.73	0.82
River 1	Reach 1-Lower	38	2YrSCS24Hr	0.23	90.46	90.59	90.55	90.61	0.006395	0.56	0.42	33.55	0.51
River 1	Reach 1-Lower	38	5YrSCS24Hr	0.40	90.46	90.62	90.58	90.65	0.009230	0.77	0.52	36.26	0.64
River 1	Reach 1-Lower	38	10YrSCS24Hr	0.52	90.46	90.64	90.60	90.68	0.011069	0.90	0.57	36.60	0.71
River 1	Reach 1-Lower	38	25YrSCS24Hr	0.68	90.46	90.65	90.63	90.71	0.013373	1.06	0.64	37.45	0.79
River 1	Reach 1-Lower	38	50YrSCS24Hr	0.80	90.46	90.66	90.64	90.74	0.015442	1.19	0.68	38.06	0.86
River 1	Reach 1-Lower	38	100YrSCS24Hr	0.94	90.46	90.67	90.66	90.76	0.018005	1.32	0.71	38.54	0.94
River 1	Reach 1-Lower	0	2YrCHI3Hr	0.14	90.42	90.50	90.46	90.50	0.001001	0.13	1.06	18.74	0.18
River 1	Reach 1-Lower	0	5YrCHI3Hr	0.26	90.42	90.53	90.47	90.53	0.001000	0.17	1.59	20.04	0.19
River 1	Reach 1-Lower	0	10YrCHI3Hr	0.36	90.42	90.54	90.48	90.55	0.001000	0.19	1.92	20.29	0.19

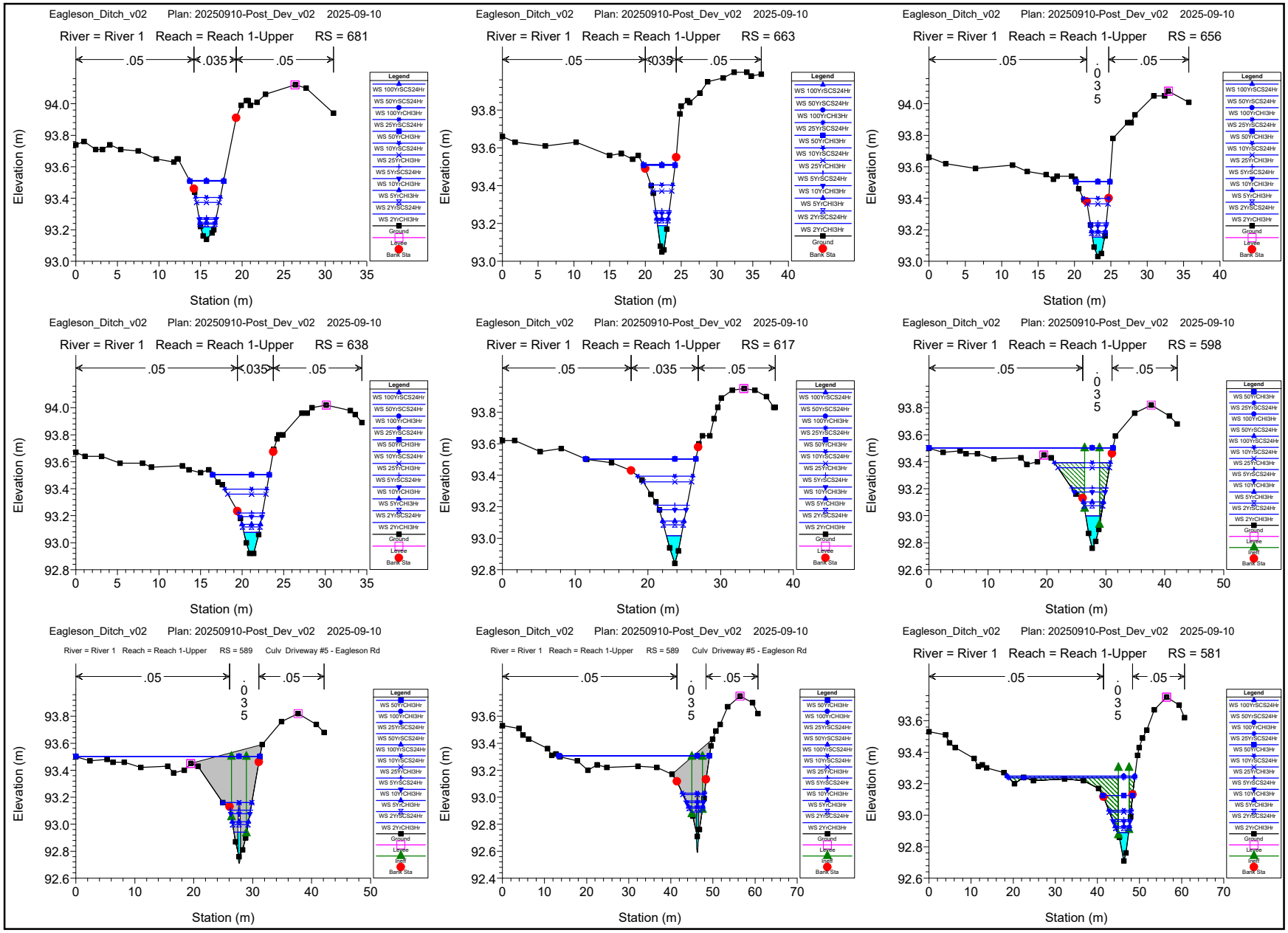
HEC-RAS Plan: 20250603-Pre_Dev_v01 (Continued)

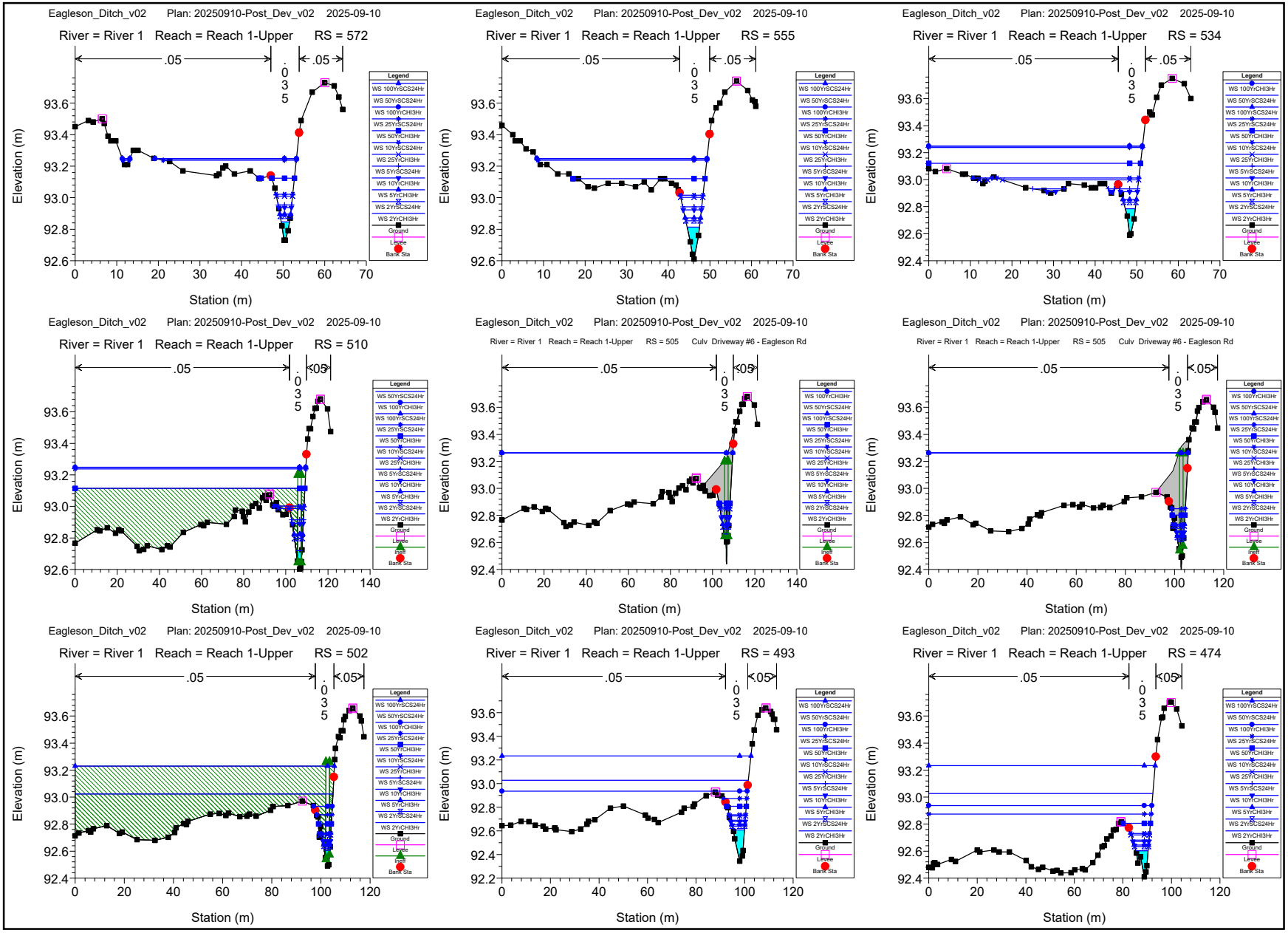
River	Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
River 1	Reach 1-Lower	0	25YrCHI3Hr	0.49	90.42	90.56	90.49	90.57	0.001001	0.21	2.33	20.58	0.20
River 1	Reach 1-Lower	0	50YrCHI3Hr	0.60	90.42	90.58	90.49	90.58	0.001000	0.23	2.64	20.80	0.20
River 1	Reach 1-Lower	0	100YrCHI3Hr	0.72	90.42	90.59	90.50	90.60	0.001000	0.24	2.98	21.46	0.21
River 1	Reach 1-Lower	0	2YrSCS24Hr	0.23	90.42	90.52	90.46	90.52	0.001000	0.16	1.47	19.96	0.19
River 1	Reach 1-Lower	0	5YrSCS24Hr	0.40	90.42	90.55	90.48	90.55	0.001001	0.20	2.05	20.38	0.20
River 1	Reach 1-Lower	0	10YrSCS24Hr	0.52	90.42	90.57	90.48	90.57	0.001001	0.22	2.40	20.63	0.20
River 1	Reach 1-Lower	0	25YrSCS24Hr	0.68	90.42	90.59	90.49	90.59	0.001000	0.24	2.85	21.31	0.21
River 1	Reach 1-Lower	0	50YrSCS24Hr	0.80	90.42	90.60	90.50	90.61	0.001001	0.25	3.18	21.58	0.21
River 1	Reach 1-Lower	0	100YrSCS24Hr	0.94	90.42	90.62	90.51	90.62	0.001000	0.27	3.51	21.78	0.21

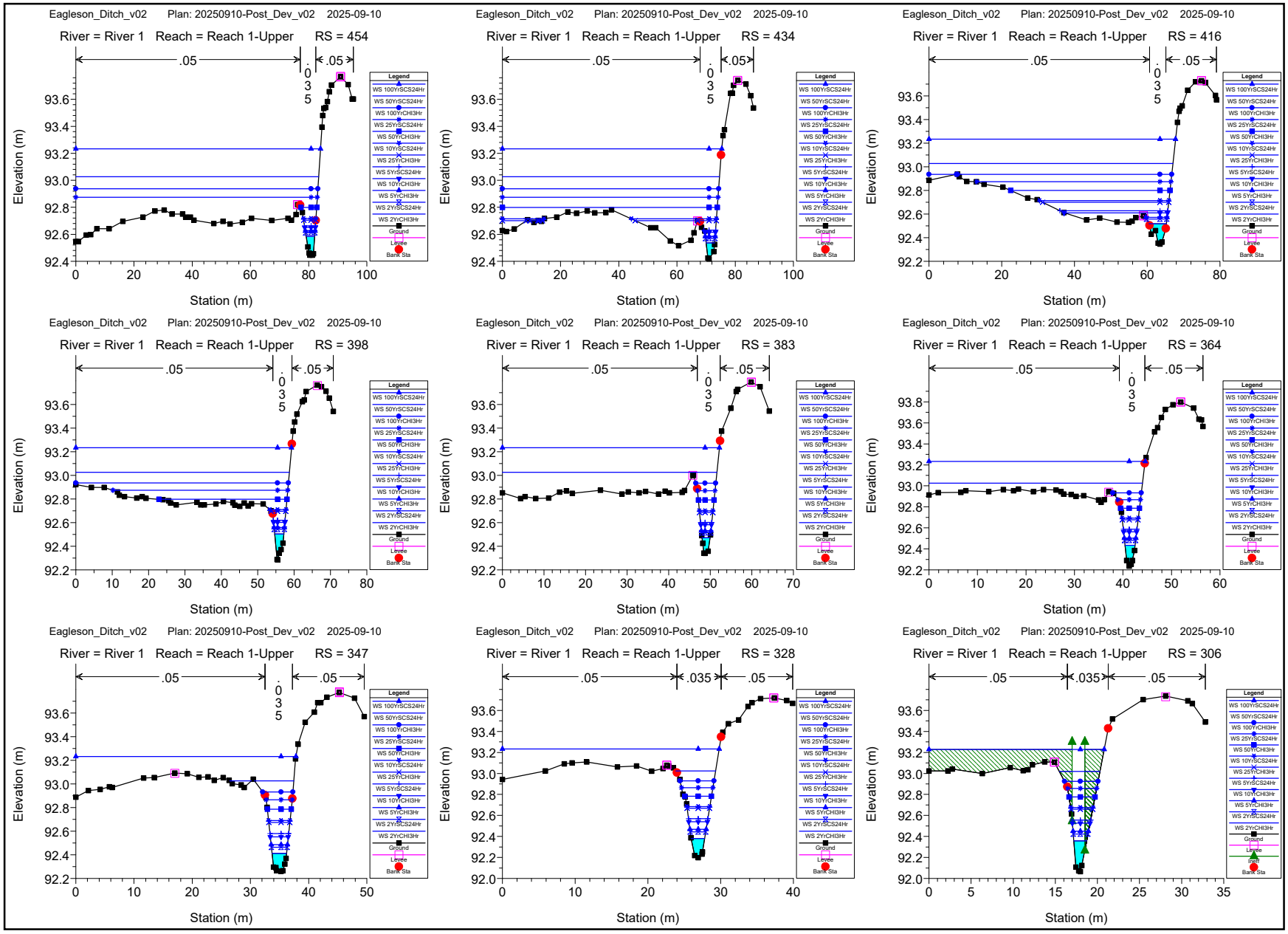

Eagleson_Ditch_v02 Plan: 20250910-Post_Dev_v02 2025-09-10
River 1 Reach 1-Upper
Elevation (m)
95
94
93
92
91
90
0
200
400
600
800
1000
Main Channel Distance (m)
Legend
WS 100YrSCS24Hr
WS 50YrSCS24Hr
WS 100YrCHI3Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 5YrSCS24Hr
WS 10YrCHI3Hr
WS 5YrCHI3Hr
WS 2YrSCS24Hr
WS 2YrCHI3Hr
Ground
LOB
ROB

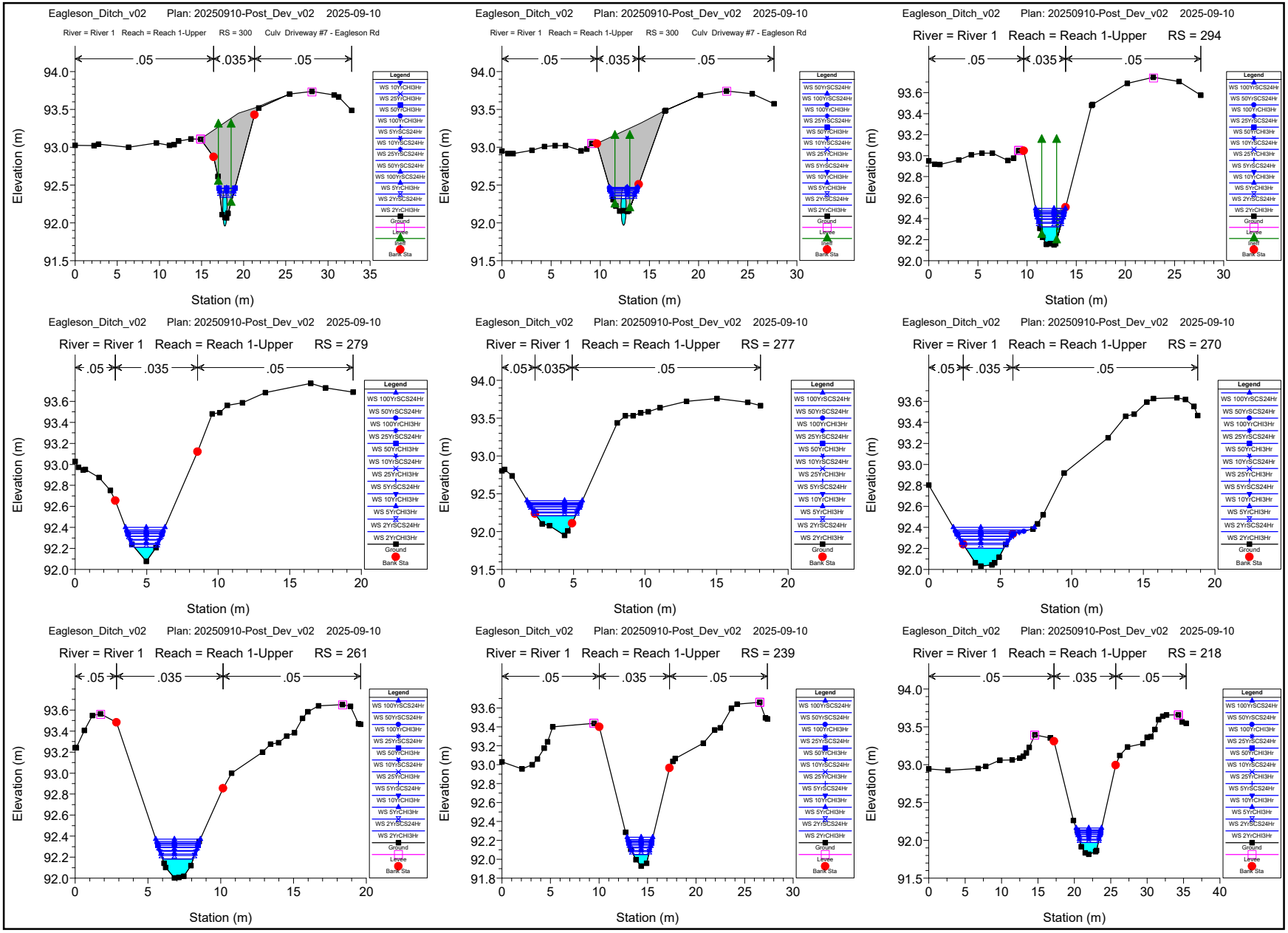

Eagleson_Ditch_v02 Plan: 20250910-Post_Dev_v02 2025-09-10
River = River 1 Reach = Reach 1-Upper RS = 908
River = River 1 Reach = Reach 1-Upper RS = 887
River = River 1 Reach = Reach 1-Upper RS = 868
River = River 1 Reach = Reach 1-Upper RS = 848
River = River 1 Reach = Reach 1-Upper RS = 828
River = River 1 Reach = Reach 1-Upper RS = 807
River = River 1 Reach = Reach 1-Upper RS = 789
River = River 1 Reach = Reach 1-Upper RS = 764 Culv Driveway #2 - Ottawa Street
.05
.035
Elevation (m)
Station (m)
Legend
WS 100YrSCS24Hr
WS 50YrSCS24Hr
WS 100YrCHI3Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
WS 25YrCHI3Hr
WS 10YrSCS24Hr
WS 5YrSCS24Hr
WS 10YrCHI3Hr
WS 5YrCHI3Hr
WS 2YrSCS24Hr
WS 2YrCHI3Hr
Ground
Levee
Bank Sta

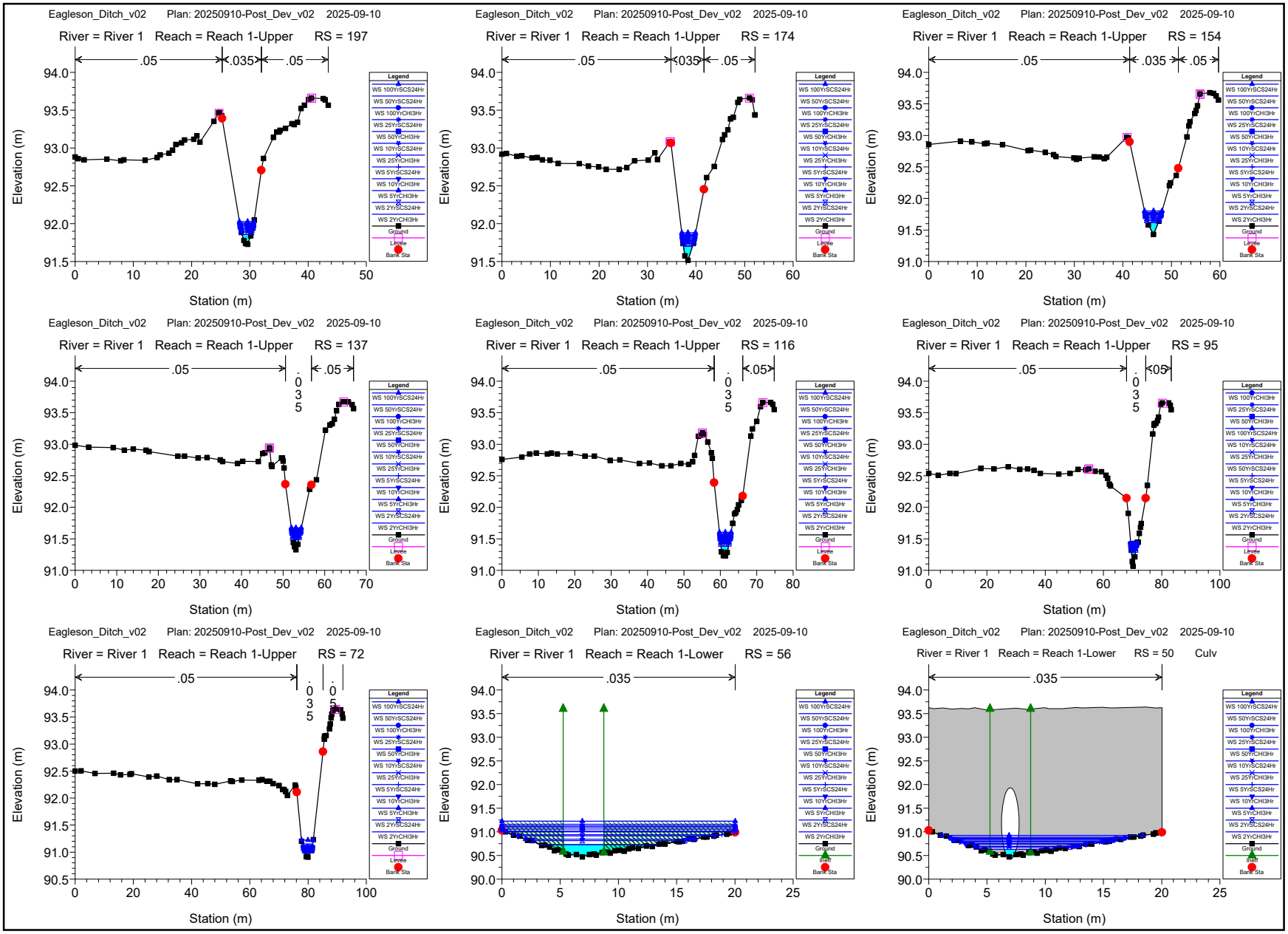

Eagleson_Ditch_v02 Plan: 20250910-Post_Dev_v02 2025-09-10
River = River 1 Reach = Reach 1-Upper RS = 759
.05
.035
.05
Elevation (m)
Station (m)
Legend
WS 100YrSCS24Hr
WS 50YrSCS24Hr
WS 100YrCHI3Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
WS 25YrCHI3Hr
WS 10YrSCS24Hr
WS 5YrSCS24Hr
WS 10YrCHI3Hr
WS 5YrCHI3Hr
WS 2YrSCS24Hr
WS 2YrCHI3Hr
Ground
Levee
Inert
Bank Sta
Eagleson_Ditch_v02 Plan: 20250910-Post_Dev_v02 2025-09-10
River = River 1 Reach = Reach 1-Upper RS = 743
Eagleson_Ditch_v02 Plan: 20250910-Post_Dev_v02 2025-09-10
River = River 1 Reach = Reach 1-Upper RS = 733 Culv Driveway #3 - Ottawa Street
Eagleson_Ditch_v02 Plan: 20250910-Post_Dev_v02 2025-09-10
River = River 1 Reach = Reach 1-Upper RS = 733 Culv Driveway #3 - Ottawa Street
Eagleson_Ditch_v02 Plan: 20250910-Post_Dev_v02 2025-09-10
River = River 1 Reach = Reach 1-Upper RS = 728
Eagleson_Ditch_v02 Plan: 20250910-Post_Dev_v02 2025-09-10
River = River 1 Reach = Reach 1-Upper RS = 715
.035
Eagleson_Ditch_v02 Plan: 20250910-Post_Dev_v02 2025-09-10
River = River 1 Reach = Reach 1-Upper RS = 705 Culv Driveway #4 - Ottawa Street
Eagleson_Ditch_v02 Plan: 20250910-Post_Dev_v02 2025-09-10
River = River 1 Reach = Reach 1-Upper RS = 705 Culv Driveway #4 - Ottawa Street
Eagleson_Ditch_v02 Plan: 20250910-Post_Dev_v02 2025-09-10
River = River 1 Reach = Reach 1-Upper RS = 698

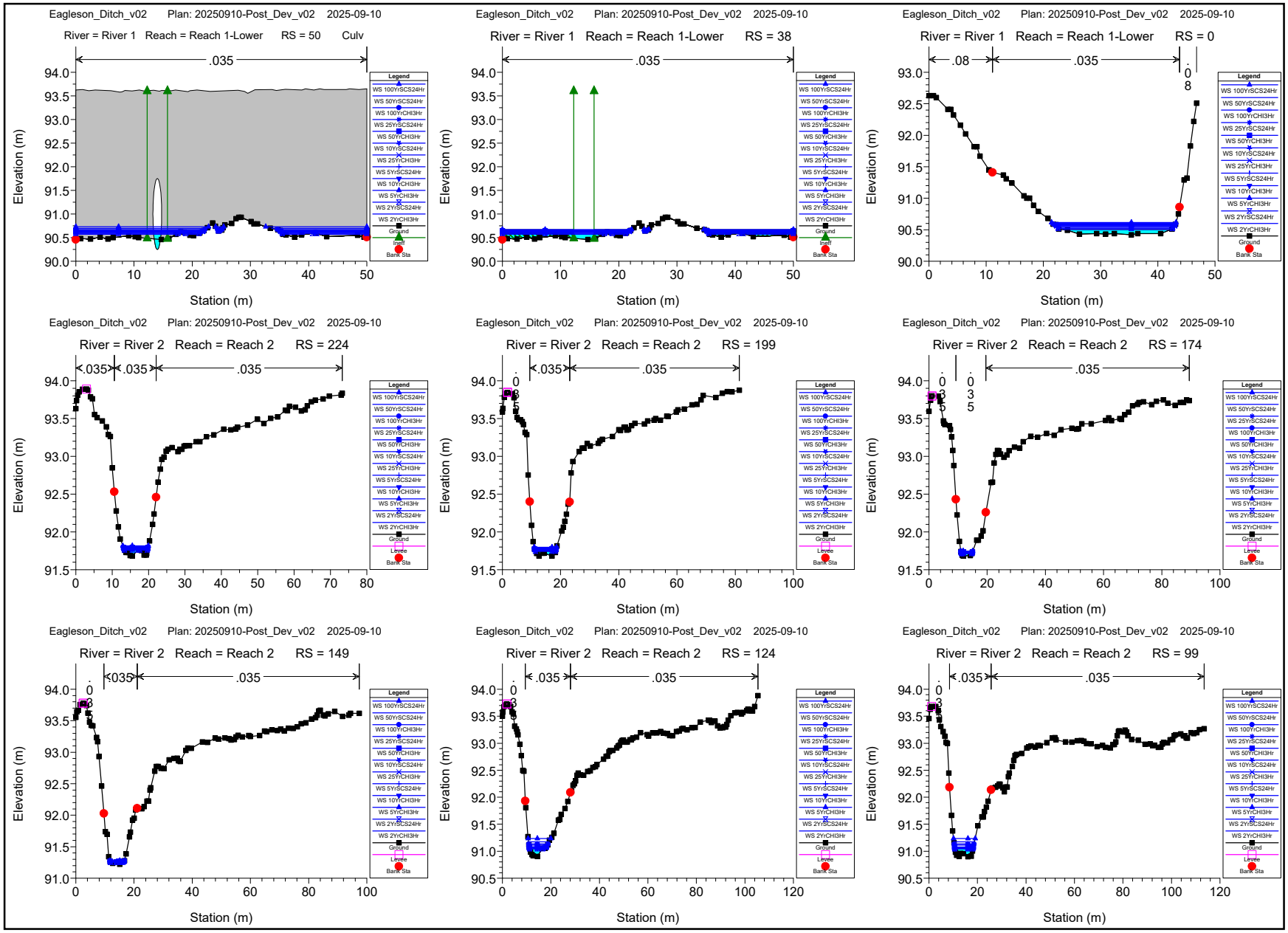

Eagleson_Ditch_v02 Plan: 20250910-Post_Dev_v02 2025-09-10
River = River 1 Reach = Reach 1-Upper RS = 681
.05 .035 .05
Elevation (m)
Station (m)
Legend
WS 100YrSCS24Hr
WS 50YrSCS24Hr
WS 100YrCHI3Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 5YrSCS24Hr
WS 10YrCHI3Hr
WS 5YrCHI3Hr
WS 2YrSCS24Hr
WS 2YrCHI3Hr
Ground
Levee
Bank Sta
Eagleson_Ditch_v02 Plan: 20250910-Post_Dev_v02 2025-09-10
River = River 1 Reach = Reach 1-Upper RS = 663
.05 .035 .05
Elevation (m)
Station (m)
Eagleson_Ditch_v02 Plan: 20250910-Post_Dev_v02 2025-09-10
River = River 1 Reach = Reach 1-Upper RS = 656
.05 .035 .05
Elevation (m)
Station (m)
Eagleson_Ditch_v02 Plan: 20250910-Post_Dev_v02 2025-09-10
River = River 1 Reach = Reach 1-Upper RS = 638
.05 .035 .05
Elevation (m)
Station (m)
Eagleson_Ditch_v02 Plan: 20250910-Post_Dev_v02 2025-09-10
River = River 1 Reach = Reach 1-Upper RS = 617
.05 .035 .05
Elevation (m)
Station (m)
Eagleson_Ditch_v02 Plan: 20250910-Post_Dev_v02 2025-09-10
River = River 1 Reach = Reach 1-Upper RS = 598
.05 .035 .05
Elevation (m)
Station (m)
Eagleson_Ditch_v02 Plan: 20250910-Post_Dev_v02 2025-09-10
River = River 1 Reach = Reach 1-Upper RS = 589 Culv Driveway #5 - Eagleson Rd
.05 .035 .05
Elevation (m)
Station (m)
Eagleson_Ditch_v02 Plan: 20250910-Post_Dev_v02 2025-09-10
River = River 1 Reach = Reach 1-Upper RS = 589 Culv Driveway #5 - Eagleson Rd
.05 .035 .05
Elevation (m)
Station (m)
Eagleson_Ditch_v02 Plan: 20250910-Post_Dev_v02 2025-09-10
River = River 1 Reach = Reach 1-Upper RS = 581
.05 .035 .05
Elevation (m)
Station (m)

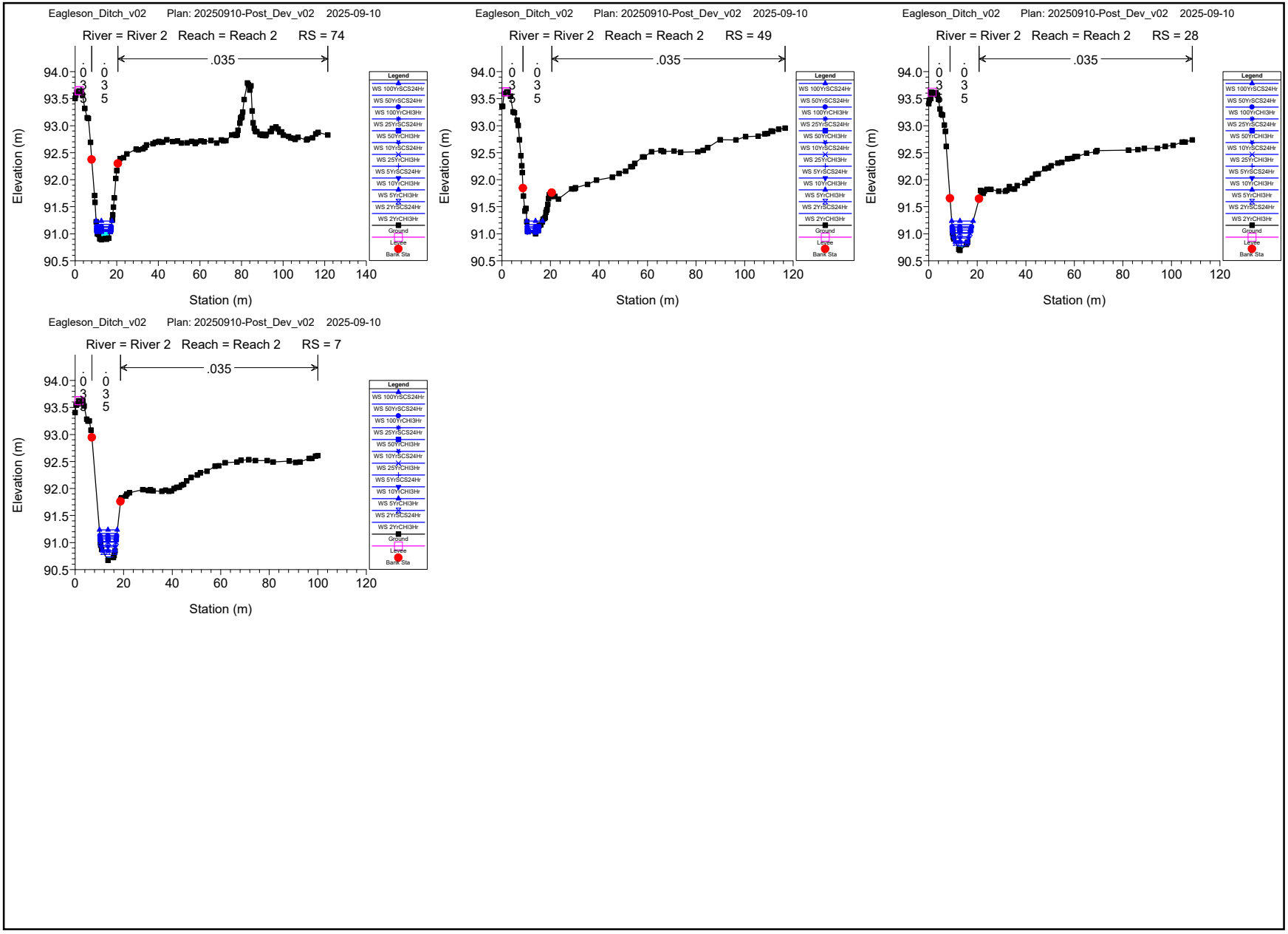

Eagleson_Ditch_v02 Plan: 20250910-Post_Dev_v02 2025-09-10
River = River 1 Reach = Reach 1-Upper RS = 572
River = River 1 Reach = Reach 1-Upper RS = 555
River = River 1 Reach = Reach 1-Upper RS = 534
River = River 1 Reach = Reach 1-Upper RS = 510
River = River 1 Reach = Reach 1-Upper RS = 505 Culv Driveway #6 - Eagleson Rd
River = River 1 Reach = Reach 1-Upper RS = 502
River = River 1 Reach = Reach 1-Upper RS = 493
River = River 1 Reach = Reach 1-Upper RS = 474
Elevation (m)
Station (m)
.05
.035
Legend
Ground
Levee
Bank Sta


Eagleson_Ditch_v02 Plan: 20250910-Post_Dev_v02 2025-09-10
River = River 1 Reach = Reach 1-Upper RS = 454
.05 .05 .035
Elevation (m)
Station (m)
Legend
WS 100YrSCS24Hr
WS 50YrSCS24Hr
WS 100YrCHI3Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 5YrSCS24Hr
WS 10YrCHI3Hr
WS 5YrCHI3Hr
WS 2YrSCS24Hr
WS 2YrCHI3Hr
Ground
Levee
Bank Sta
Eagleson_Ditch_v02 Plan: 20250910-Post_Dev_v02 2025-09-10
River = River 1 Reach = Reach 1-Upper RS = 434
.05 .05 .035
Elevation (m)
Station (m)
Eagleson_Ditch_v02 Plan: 20250910-Post_Dev_v02 2025-09-10
River = River 1 Reach = Reach 1-Upper RS = 416
.05 .05 .035
Elevation (m)
Station (m)
Eagleson_Ditch_v02 Plan: 20250910-Post_Dev_v02 2025-09-10
River = River 1 Reach = Reach 1-Upper RS = 398
.05 .05 .035
Elevation (m)
Station (m)
Eagleson_Ditch_v02 Plan: 20250910-Post_Dev_v02 2025-09-10
River = River 1 Reach = Reach 1-Upper RS = 383
.05 .05 .035
Elevation (m)
Station (m)
Eagleson_Ditch_v02 Plan: 20250910-Post_Dev_v02 2025-09-10
River = River 1 Reach = Reach 1-Upper RS = 364
.05 .05 .035
Elevation (m)
Station (m)
Eagleson_Ditch_v02 Plan: 20250910-Post_Dev_v02 2025-09-10
River = River 1 Reach = Reach 1-Upper RS = 347
.05 .05 .035
Elevation (m)
Station (m)
Eagleson_Ditch_v02 Plan: 20250910-Post_Dev_v02 2025-09-10
River = River 1 Reach = Reach 1-Upper RS = 328
.05 .035 .05
Elevation (m)
Station (m)
Eagleson_Ditch_v02 Plan: 20250910-Post_Dev_v02 2025-09-10
River = River 1 Reach = Reach 1-Upper RS = 306
.05 .035 .05
Elevation (m)
Station (m)


Eagleson_Ditch_v02 Plan: 20250910-Post_Dev_v02 2025-09-10
River = River 1 Reach = Reach 1-Upper RS = 300 Culv Driveway #7 - Eagleson Rd
.05 .035 .05
Elevation (m)
Station (m)
Legend
WS 100YrSCS24Hr
WS 50YrSCS24Hr
WS 100YrCHI3Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 5YrSCS24Hr
WS 10YrCHI3Hr
WS 5YrCHI3Hr
WS 2YrSCS24Hr
WS 2YrCHI3Hr
Ground
Levee
Bank Sta
Eagleson_Ditch_v02 Plan: 20250910-Post_Dev_v02 2025-09-10
River = River 1 Reach = Reach 1-Upper RS = 294
Eagleson_Ditch_v02 Plan: 20250910-Post_Dev_v02 2025-09-10
River = River 1 Reach = Reach 1-Upper RS = 279
Eagleson_Ditch_v02 Plan: 20250910-Post_Dev_v02 2025-09-10
River = River 1 Reach = Reach 1-Upper RS = 277
Eagleson_Ditch_v02 Plan: 20250910-Post_Dev_v02 2025-09-10
River = River 1 Reach = Reach 1-Upper RS = 270
Eagleson_Ditch_v02 Plan: 20250910-Post_Dev_v02 2025-09-10
River = River 1 Reach = Reach 1-Upper RS = 261
Eagleson_Ditch_v02 Plan: 20250910-Post_Dev_v02 2025-09-10
River = River 1 Reach = Reach 1-Upper RS = 239
Eagleson_Ditch_v02 Plan: 20250910-Post_Dev_v02 2025-09-10
River = River 1 Reach = Reach 1-Upper RS = 218


Eagleson_Ditch_v02 Plan: 20250910-Post_Dev_v02 2025-09-10
River = River 1 Reach = Reach 1-Upper RS = 197
.05
.035
.05
Elevation (m)
Station (m)
Legend
WS 100YrSCS24Hr
WS 50YrSCS24Hr
WS 100YrCHI3Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 5YrSCS24Hr
WS 10YrCHI3Hr
WS 5YrCHI3Hr
WS 2YrSCS24Hr
WS 2YrCHI3Hr
Ground
Levee
Bank Sta
Eagleson_Ditch_v02 Plan: 20250910-Post_Dev_v02 2025-09-10
River = River 1 Reach = Reach 1-Upper RS = 174
.05
.035
.05
Elevation (m)
Station (m)
Eagleson_Ditch_v02 Plan: 20250910-Post_Dev_v02 2025-09-10
River = River 1 Reach = Reach 1-Upper RS = 154
.05
.035
.05
Elevation (m)
Station (m)
Eagleson_Ditch_v02 Plan: 20250910-Post_Dev_v02 2025-09-10
River = River 1 Reach = Reach 1-Upper RS = 137
.05
.035
.05
Elevation (m)
Station (m)
Eagleson_Ditch_v02 Plan: 20250910-Post_Dev_v02 2025-09-10
River = River 1 Reach = Reach 1-Upper RS = 116
.05
.035
.05
Elevation (m)
Station (m)
Eagleson_Ditch_v02 Plan: 20250910-Post_Dev_v02 2025-09-10
River = River 1 Reach = Reach 1-Upper RS = 95
.05
.035
.05
Elevation (m)
Station (m)
Eagleson_Ditch_v02 Plan: 20250910-Post_Dev_v02 2025-09-10
River = River 1 Reach = Reach 1-Upper RS = 72
.05
.035
.05
Elevation (m)
Station (m)
Eagleson_Ditch_v02 Plan: 20250910-Post_Dev_v02 2025-09-10
River = River 1 Reach = Reach 1-Lower RS = 56
.035
Elevation (m)
Station (m)
Eagleson_Ditch_v02 Plan: 20250910-Post_Dev_v02 2025-09-10
River = River 1 Reach = Reach 1-Lower RS = 50 Culv
.035
Elevation (m)
Station (m)


Eagleson_Ditch_v02 Plan: 20250910-Post_Dev_v02 2025-09-10
River = River 1 Reach = Reach 1-Lower RS = 50 Culv
.035
Elevation (m)
Station (m)
Eagleson_Ditch_v02 Plan: 20250910-Post_Dev_v02 2025-09-10
River = River 1 Reach = Reach 1-Lower RS = 38
.035
Elevation (m)
Station (m)
Eagleson_Ditch_v02 Plan: 20250910-Post_Dev_v02 2025-09-10
River = River 1 Reach = Reach 1-Lower RS = 0
.08
.035
Elevation (m)
Station (m)
Eagleson_Ditch_v02 Plan: 20250910-Post_Dev_v02 2025-09-10
River = River 2 Reach = Reach 2 RS = 224
.035
.035
.035
Elevation (m)
Station (m)
Eagleson_Ditch_v02 Plan: 20250910-Post_Dev_v02 2025-09-10
River = River 2 Reach = Reach 2 RS = 199
.035
.035
Elevation (m)
Station (m)
Eagleson_Ditch_v02 Plan: 20250910-Post_Dev_v02 2025-09-10
River = River 2 Reach = Reach 2 RS = 174
.035
Elevation (m)
Station (m)
Eagleson_Ditch_v02 Plan: 20250910-Post_Dev_v02 2025-09-10
River = River 2 Reach = Reach 2 RS = 149
.035
.035
Elevation (m)
Station (m)
Eagleson_Ditch_v02 Plan: 20250910-Post_Dev_v02 2025-09-10
River = River 2 Reach = Reach 2 RS = 124
.035
.035
Elevation (m)
Station (m)
Eagleson_Ditch_v02 Plan: 20250910-Post_Dev_v02 2025-09-10
River = River 2 Reach = Reach 2 RS = 99
.035
.035
Elevation (m)
Station (m)
Legend
WS 100YrSCS24Hr
WS 50YrSCS24Hr
WS 100YrCHI3Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 5YrSCS24Hr
WS 10YrCHI3Hr
WS 5YrCHI3Hr
WS 2YrSCS24Hr
WS 2YrCHI3Hr
Ground
Levee
Bank Sta


Eagleson_Ditch_v02 Plan: 20250910-Post_Dev_v02 2025-09-10
River = River 2 Reach = Reach 2 RS = 74
.035
.035
.035
Elevation (m)
Station (m)
Legend
WS 100YrSCS24Hr
WS 50YrSCS24Hr
WS 100YrCHI3Hr
WS 25YrSCS24Hr
WS 50YrCHI3Hr
WS 10YrSCS24Hr
WS 25YrCHI3Hr
WS 5YrSCS24Hr
WS 10YrCHI3Hr
WS 5YrCHI3Hr
WS 2YrSCS24Hr
WS 2YrCHI3Hr
Ground
Levee
Bank Sta
Eagleson_Ditch_v02 Plan: 20250910-Post_Dev_v02 2025-09-10
River = River 2 Reach = Reach 2 RS = 49
Eagleson_Ditch_v02 Plan: 20250910-Post_Dev_v02 2025-09-10
River = River 2 Reach = Reach 2 RS = 28
Eagleson_Ditch_v02 Plan: 20250910-Post_Dev_v02 2025-09-10
River = River 2 Reach = Reach 2 RS = 7

HEC-RAS Plan: 20250910-Post_Dev_v02 River: River 1 Reach: Reach 1-Upper

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
Reach 1-Upper	908	2YrCHI3Hr	0.02	94.14	94.22	94.18	94.22	0.001632	0.16	0.12	2.47	0.22
Reach 1-Upper	908	5YrCHI3Hr	0.03	94.14	94.23	94.19	94.23	0.001834	0.18	0.15	2.66	0.24
Reach 1-Upper	908	10YrCHI3Hr	0.03	94.14	94.24	94.19	94.24	0.001946	0.19	0.17	2.76	0.25
Reach 1-Upper	908	25YrCHI3Hr	0.04	94.14	94.25	94.20	94.25	0.002058	0.21	0.18	2.87	0.26
Reach 1-Upper	908	50YrCHI3Hr	0.04	94.14	94.25	94.20	94.25	0.002138	0.22	0.20	2.95	0.27
Reach 1-Upper	908	100YrCHI3Hr	0.05	94.14	94.26	94.20	94.26	0.002189	0.23	0.21	3.04	0.27
Reach 1-Upper	908	2YrSCS24Hr	0.02	94.14	94.23	94.19	94.23	0.001752	0.17	0.14	2.59	0.23
Reach 1-Upper	908	5YrSCS24Hr	0.03	94.14	94.24	94.19	94.24	0.001946	0.19	0.17	2.76	0.25
Reach 1-Upper	908	10YrSCS24Hr	0.04	94.14	94.24	94.20	94.25	0.002043	0.20	0.18	2.85	0.26
Reach 1-Upper	908	25YrSCS24Hr	0.04	94.14	94.25	94.20	94.25	0.002153	0.22	0.20	2.97	0.27
Reach 1-Upper	908	50YrSCS24Hr	0.05	94.14	94.26	94.20	94.26	0.002199	0.23	0.22	3.05	0.27
Reach 1-Upper	908	100YrSCS24Hr	0.06	94.14	94.26	94.21	94.26	0.002259	0.24	0.23	3.15	0.28
Reach 1-Upper	887	2YrCHI3Hr	0.02	94.10	94.16	94.14	94.16	0.007210	0.24	0.08	2.48	0.44
Reach 1-Upper	887	5YrCHI3Hr	0.03	94.10	94.17	94.15	94.17	0.005770	0.25	0.11	2.82	0.40
Reach 1-Upper	887	10YrCHI3Hr	0.03	94.10	94.18	94.15	94.18	0.005292	0.25	0.13	2.98	0.39
Reach 1-Upper	887	25YrCHI3Hr	0.04	94.10	94.18	94.15	94.19	0.004885	0.26	0.15	3.16	0.38
Reach 1-Upper	887	50YrCHI3Hr	0.04	94.10	94.19	94.16	94.19	0.004480	0.26	0.17	3.32	0.37
Reach 1-Upper	887	100YrCHI3Hr	0.05	94.10	94.19	94.16	94.20	0.004579	0.27	0.18	3.42	0.38
Reach 1-Upper	887	2YrSCS24Hr	0.02	94.10	94.17	94.15	94.17	0.006295	0.25	0.10	2.71	0.42
Reach 1-Upper	887	5YrSCS24Hr	0.03	94.10	94.18	94.15	94.18	0.005292	0.25	0.13	2.98	0.39
Reach 1-Upper	887	10YrSCS24Hr	0.04	94.10	94.18	94.15	94.19	0.004912	0.26	0.14	3.14	0.38
Reach 1-Upper	887	25YrSCS24Hr	0.04	94.10	94.19	94.16	94.19	0.004434	0.26	0.17	3.35	0.37
Reach 1-Upper	887	50YrSCS24Hr	0.05	94.10	94.19	94.16	94.20	0.004587	0.27	0.18	3.44	0.38
Reach 1-Upper	887	100YrSCS24Hr	0.06	94.10	94.20	94.16	94.20	0.004863	0.29	0.19	3.53	0.39
Reach 1-Upper	868	2YrCHI3Hr	0.02	93.96	94.03	94.01	94.03	0.006094	0.26	0.07	1.89	0.41
Reach 1-Upper	868	5YrCHI3Hr	0.03	93.96	94.04	94.02	94.04	0.008117	0.32	0.09	1.99	0.49
Reach 1-Upper	868	10YrCHI3Hr	0.03	93.96	94.04	94.02	94.04	0.009697	0.35	0.09	2.03	0.53
Reach 1-Upper	868	25YrCHI3Hr	0.04	93.96	94.04	94.02	94.05	0.011359	0.39	0.10	2.08	0.58
Reach 1-Upper	868	50YrCHI3Hr	0.04	93.96	94.04	94.03	94.05	0.012637	0.42	0.10	2.12	0.62
Reach 1-Upper	868	100YrCHI3Hr	0.05	93.96	94.05	94.03	94.06	0.013009	0.44	0.11	2.18	0.63
Reach 1-Upper	868	2YrSCS24Hr	0.02	93.96	94.03	94.01	94.04	0.007224	0.29	0.08	1.96	0.46
Reach 1-Upper	868	5YrSCS24Hr	0.03	93.96	94.04	94.02	94.04	0.009697	0.35	0.09	2.03	0.53
Reach 1-Upper	868	10YrSCS24Hr	0.04	93.96	94.04	94.02	94.05	0.011232	0.39	0.10	2.07	0.58
Reach 1-Upper	868	25YrSCS24Hr	0.04	93.96	94.04	94.03	94.05	0.013016	0.43	0.10	2.13	0.63
Reach 1-Upper	868	50YrSCS24Hr	0.05	93.96	94.05	94.03	94.06	0.012976	0.44	0.11	2.19	0.63
Reach 1-Upper	868	100YrSCS24Hr	0.06	93.96	94.05	94.04	94.06	0.011619	0.44	0.12	2.30	0.60
Reach 1-Upper	848	2YrCHI3Hr	0.02	93.87	93.92	93.90	93.93	0.004549	0.20	0.09	2.73	0.35
Reach 1-Upper	848	5YrCHI3Hr	0.03	93.87	93.94	93.91	93.94	0.003629	0.21	0.13	3.01	0.32
Reach 1-Upper	848	10YrCHI3Hr	0.03	93.87	93.94	93.91	93.95	0.002995	0.21	0.15	3.10	0.30
Reach 1-Upper	848	25YrCHI3Hr	0.04	93.87	93.95	93.92	93.96	0.002536	0.21	0.18	3.19	0.28
Reach 1-Upper	848	50YrCHI3Hr	0.04	93.87	93.96	93.92	93.96	0.002177	0.21	0.21	3.28	0.27
Reach 1-Upper	848	100YrCHI3Hr	0.05	93.87	93.97	93.92	93.97	0.002108	0.22	0.22	3.34	0.27
Reach 1-Upper	848	2YrSCS24Hr	0.02	93.87	93.93	93.91	93.93	0.004188	0.21	0.11	2.93	0.34
Reach 1-Upper	848	5YrSCS24Hr	0.03	93.87	93.94	93.91	93.95	0.002995	0.21	0.15	3.10	0.30
Reach 1-Upper	848	10YrSCS24Hr	0.04	93.87	93.95	93.92	93.95	0.002574	0.21	0.18	3.18	0.29
Reach 1-Upper	848	25YrSCS24Hr	0.04	93.87	93.96	93.92	93.96	0.002104	0.21	0.21	3.30	0.26
Reach 1-Upper	848	50YrSCS24Hr	0.05	93.87	93.97	93.92	93.97	0.002100	0.22	0.23	3.35	0.27
Reach 1-Upper	848	100YrSCS24Hr	0.06	93.87	93.97	93.92	93.97	0.002380	0.23	0.23	3.38	0.28
Reach 1-Upper	828	2YrCHI3Hr	0.02	93.78	93.86	93.82	93.86	0.002644	0.17	0.11	2.77	0.27
Reach 1-Upper	828	5YrCHI3Hr	0.03	93.78	93.86	93.83	93.86	0.004666	0.23	0.12	2.86	0.37
Reach 1-Upper	828	10YrCHI3Hr	0.03	93.78	93.86	93.83	93.86	0.007085	0.28	0.11	2.81	0.45
Reach 1-Upper	828	25YrCHI3Hr	0.04	93.78	93.85	93.84	93.86	0.014294	0.39	0.10	2.58	0.63
Reach 1-Upper	828	50YrCHI3Hr	0.04	93.78	93.84	93.84	93.86	0.029914	0.53	0.08	2.30	0.90
Reach 1-Upper	828	100YrCHI3Hr	0.05	93.78	93.84	93.84	93.86	0.034267	0.57	0.08	2.34	0.97
Reach 1-Upper	828	2YrSCS24Hr	0.02	93.78	93.86	93.82	93.86	0.003210	0.19	0.12	2.95	0.30
Reach 1-Upper	828	5YrSCS24Hr	0.03	93.78	93.86	93.83	93.86	0.007085	0.28	0.11	2.81	0.45
Reach 1-Upper	828	10YrSCS24Hr	0.04	93.78	93.85	93.84	93.86	0.012962	0.37	0.10	2.61	0.60
Reach 1-Upper	828	25YrSCS24Hr	0.04	93.78	93.84	93.84	93.86	0.035615	0.57	0.08	2.22	0.98
Reach 1-Upper	828	50YrSCS24Hr	0.05	93.78	93.84	93.84	93.86	0.036015	0.59	0.08	2.34	0.99
Reach 1-Upper	828	100YrSCS24Hr	0.06	93.78	93.86	93.85	93.87	0.020193	0.48	0.11	2.83	0.76
Reach 1-Upper	807	2YrCHI3Hr	0.02	93.65	93.70	93.70	93.71	0.044163	0.52	0.04	1.46	1.04
Reach 1-Upper	807	5YrCHI3Hr	0.03	93.65	93.73	93.71	93.73	0.007733	0.31	0.09	2.04	0.47
Reach 1-Upper	807	10YrCHI3Hr	0.03	93.65	93.75	93.71	93.75	0.003849	0.25	0.13	2.40	0.35
Reach 1-Upper	807	25YrCHI3Hr	0.04	93.65	93.77	93.71	93.77	0.001862	0.20	0.19	2.86	0.25
Reach 1-Upper	807	50YrCHI3Hr	0.04	93.65	93.79	93.72	93.79	0.001072	0.17	0.25	3.27	0.20
Reach 1-Upper	807	100YrCHI3Hr	0.05	93.65	93.81	93.72	93.81	0.000618	0.15	0.32	3.62	0.15
Reach 1-Upper	807	2YrSCS24Hr	0.02	93.65	93.71	93.70	93.72	0.021814	0.43	0.06	1.70	0.76
Reach 1-Upper	807	5YrSCS24Hr	0.03	93.65	93.75	93.71	93.75	0.003849	0.25	0.13	2.40	0.35
Reach 1-Upper	807	10YrSCS24Hr	0.04	93.65	93.77	93.71	93.77	0.002057	0.21	0.18	2.79	0.26
Reach 1-Upper	807	25YrSCS24Hr	0.04	93.65	93.79	93.72	93.79	0.000946	0.17	0.26	3.34	0.18
Reach 1-Upper	807	50YrSCS24Hr	0.05	93.65	93.81	93.72	93.82	0.000538	0.15	0.34	3.71	0.14
Reach 1-Upper	807	100YrSCS24Hr	0.06	93.65	93.84	93.73	93.85	0.000286	0.13	0.46	4.22	0.11
Reach 1-Upper	789	2YrCHI3Hr	0.02	93.49	93.69	93.53	93.69	0.000037	0.05	0.38	3.33	0.04
Reach 1-Upper	789	5YrCHI3Hr	0.03	93.49	93.73	93.54	93.73	0.000036	0.06	0.47	3.77	0.04
Reach 1-Upper	789	10YrCHI3Hr	0.03	93.49	93.74	93.55	93.74	0.000038	0.06	0.51	4.05	0.04
Reach 1-Upper	789	25YrCHI3Hr	0.04	93.49	93.77	93.55	93.77	0.000038	0.07	0.56	4.42	0.04
Reach 1-Upper	789	50YrCHI3Hr	0.04	93.49	93.79	93.55	93.79	0.000038	0.07	0.61	4.75	0.04

HEC-RAS Plan: 20250910-Post_Dev_v02 River: River 1 Reach: Reach 1-Upper (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
Reach 1-Upper	789	100YrCHI3Hr	0.05	93.49	93.81	93.56	93.81	0.000036	0.07	0.66	5.08	0.04
Reach 1-Upper	789	2YrSCS24Hr	0.02	93.49	93.71	93.54	93.71	0.000038	0.06	0.43	3.55	0.04
Reach 1-Upper	789	5YrSCS24Hr	0.03	93.49	93.74	93.55	93.74	0.000038	0.06	0.51	4.05	0.04
Reach 1-Upper	789	10YrSCS24Hr	0.04	93.49	93.76	93.55	93.76	0.000038	0.07	0.56	4.37	0.04
Reach 1-Upper	789	25YrSCS24Hr	0.04	93.49	93.79	93.56	93.79	0.000037	0.07	0.62	4.81	0.04
Reach 1-Upper	789	50YrSCS24Hr	0.05	93.49	93.81	93.56	93.81	0.000035	0.07	0.67	5.17	0.04
Reach 1-Upper	789	100YrSCS24Hr	0.06	93.49	93.84	93.56	93.84	0.000032	0.07	0.75	5.59	0.04
Reach 1-Upper	764		Culvert									
Reach 1-Upper	759	2YrCHI3Hr	0.02	93.46	93.54	93.50	93.54	0.002883	0.23	0.08	1.83	0.30
Reach 1-Upper	759	5YrCHI3Hr	0.03	93.46	93.56	93.51	93.56	0.001988	0.23	0.12	2.15	0.26
Reach 1-Upper	759	10YrCHI3Hr	0.03	93.46	93.58	93.51	93.58	0.001375	0.22	0.14	2.40	0.23
Reach 1-Upper	759	25YrCHI3Hr	0.04	93.46	93.61	93.52	93.61	0.000864	0.21	0.18	2.73	0.19
Reach 1-Upper	759	50YrCHI3Hr	0.04	93.46	93.65	93.52	93.65	0.000433	0.18	0.24	3.23	0.14
Reach 1-Upper	759	100YrCHI3Hr	0.05	93.46	93.68	93.53	93.68	0.000309	0.17	0.29	3.59	0.12
Reach 1-Upper	759	2YrSCS24Hr	0.02	93.46	93.55	93.51	93.56	0.002355	0.23	0.10	2.03	0.28
Reach 1-Upper	759	5YrSCS24Hr	0.03	93.46	93.58	93.51	93.58	0.001375	0.22	0.14	2.40	0.23
Reach 1-Upper	759	10YrSCS24Hr	0.04	93.46	93.60	93.52	93.60	0.000932	0.21	0.18	2.67	0.19
Reach 1-Upper	759	25YrSCS24Hr	0.04	93.46	93.65	93.52	93.65	0.000408	0.17	0.25	3.29	0.14
Reach 1-Upper	759	50YrSCS24Hr	0.05	93.46	93.69	93.53	93.69	0.000262	0.16	0.31	3.73	0.11
Reach 1-Upper	759	100YrSCS24Hr	0.06	93.46	93.73	93.53	93.73	0.000176	0.15	0.37	4.23	0.10
Reach 1-Upper	743	2YrCHI3Hr	0.02	93.40	93.49	93.45	93.50	0.002754	0.25	0.08	1.55	0.30
Reach 1-Upper	743	5YrCHI3Hr	0.03	93.40	93.54	93.46	93.54	0.001046	0.20	0.13	2.00	0.20
Reach 1-Upper	743	10YrCHI3Hr	0.03	93.40	93.57	93.47	93.57	0.000686	0.19	0.17	2.25	0.17
Reach 1-Upper	743	25YrCHI3Hr	0.04	93.40	93.60	93.47	93.60	0.000466	0.18	0.21	2.59	0.14
Reach 1-Upper	743	50YrCHI3Hr	0.04	93.40	93.64	93.48	93.64	0.000265	0.16	0.27	3.11	0.11
Reach 1-Upper	743	100YrCHI3Hr	0.05	93.40	93.67	93.48	93.67	0.000207	0.16	0.31	3.83	0.10
Reach 1-Upper	743	2YrSCS24Hr	0.02	93.40	93.52	93.46	93.52	0.001463	0.21	0.11	1.84	0.23
Reach 1-Upper	743	5YrSCS24Hr	0.03	93.40	93.57	93.47	93.57	0.000686	0.19	0.17	2.25	0.17
Reach 1-Upper	743	10YrSCS24Hr	0.04	93.40	93.59	93.47	93.59	0.000495	0.18	0.20	2.53	0.15
Reach 1-Upper	743	25YrSCS24Hr	0.04	93.40	93.65	93.48	93.65	0.000254	0.16	0.27	3.18	0.11
Reach 1-Upper	743	50YrSCS24Hr	0.05	93.40	93.68	93.48	93.69	0.000181	0.15	0.32	4.15	0.10
Reach 1-Upper	743	100YrSCS24Hr	0.06	93.40	93.73	93.49	93.73	0.000134	0.14	0.38	4.85	0.09
Reach 1-Upper	733		Culvert									
Reach 1-Upper	728	2YrCHI3Hr	0.02	93.33	93.48	93.39	93.48	0.000387	0.13	0.15	1.68	0.12
Reach 1-Upper	728	5YrCHI3Hr	0.03	93.33	93.52	93.40	93.52	0.000273	0.13	0.21	1.98	0.11
Reach 1-Upper	728	10YrCHI3Hr	0.03	93.33	93.55	93.40	93.55	0.000233	0.13	0.24	2.16	0.10
Reach 1-Upper	728	25YrCHI3Hr	0.04	93.33	93.58	93.41	93.58	0.000196	0.14	0.28	2.37	0.10
Reach 1-Upper	728	50YrCHI3Hr	0.04	93.33	93.62	93.41	93.62	0.000131	0.13	0.34	2.70	0.08
Reach 1-Upper	728	100YrCHI3Hr	0.05	93.33	93.64	93.42	93.64	0.000117	0.13	0.38	2.90	0.08
Reach 1-Upper	728	2YrSCS24Hr	0.02	93.33	93.51	93.39	93.51	0.000306	0.13	0.19	1.87	0.11
Reach 1-Upper	728	5YrSCS24Hr	0.03	93.33	93.55	93.40	93.55	0.000233	0.13	0.24	2.16	0.10
Reach 1-Upper	728	10YrSCS24Hr	0.04	93.33	93.57	93.41	93.57	0.000202	0.14	0.27	2.34	0.10
Reach 1-Upper	728	25YrSCS24Hr	0.04	93.33	93.62	93.41	93.62	0.000128	0.13	0.35	2.74	0.08
Reach 1-Upper	728	50YrSCS24Hr	0.05	93.33	93.66	93.42	93.66	0.000106	0.12	0.39	2.98	0.08
Reach 1-Upper	728	100YrSCS24Hr	0.06	93.33	93.69	93.42	93.69	0.000091	0.12	0.44	3.24	0.07
Reach 1-Upper	715	2YrCHI3Hr	0.02	93.32	93.48	93.36	93.48	0.000151	0.10	0.20	2.44	0.08
Reach 1-Upper	715	5YrCHI3Hr	0.03	93.32	93.52	93.37	93.52	0.000132	0.11	0.26	2.85	0.08
Reach 1-Upper	715	10YrCHI3Hr	0.03	93.32	93.54	93.37	93.54	0.000123	0.11	0.29	3.09	0.08
Reach 1-Upper	715	25YrCHI3Hr	0.04	93.32	93.57	93.38	93.57	0.000112	0.11	0.33	3.38	0.08
Reach 1-Upper	715	50YrCHI3Hr	0.04	93.32	93.62	93.38	93.62	0.000081	0.11	0.39	3.82	0.07
Reach 1-Upper	715	100YrCHI3Hr	0.05	93.32	93.64	93.39	93.64	0.000075	0.11	0.43	4.07	0.06
Reach 1-Upper	715	2YrSCS24Hr	0.02	93.32	93.51	93.36	93.51	0.000138	0.10	0.24	2.70	0.08
Reach 1-Upper	715	5YrSCS24Hr	0.03	93.32	93.54	93.37	93.54	0.000123	0.11	0.29	3.09	0.08
Reach 1-Upper	715	10YrSCS24Hr	0.04	93.32	93.57	93.38	93.57	0.000114	0.11	0.32	3.33	0.08
Reach 1-Upper	715	25YrSCS24Hr	0.04	93.32	93.62	93.39	93.62	0.000080	0.11	0.40	3.86	0.07
Reach 1-Upper	715	50YrSCS24Hr	0.05	93.32	93.65	93.39	93.65	0.000070	0.11	0.44	4.19	0.06
Reach 1-Upper	715	100YrSCS24Hr	0.06	93.32	93.69	93.39	93.69	0.000062	0.11	0.49	4.53	0.06
Reach 1-Upper	705		Culvert									
Reach 1-Upper	698	2YrCHI3Hr	0.02	93.24	93.31	93.29	93.32	0.010647	0.37	0.05	1.15	0.56
Reach 1-Upper	698	5YrCHI3Hr	0.03	93.24	93.31	93.30	93.33	0.018452	0.50	0.05	1.17	0.74
Reach 1-Upper	698	10YrCHI3Hr	0.03	93.24	93.31	93.31	93.33	0.030771	0.62	0.05	1.15	0.95
Reach 1-Upper	698	25YrCHI3Hr	0.04	93.24	93.38	93.31	93.38	0.002195	0.26	0.15	1.67	0.28
Reach 1-Upper	698	50YrCHI3Hr	0.04	93.24	93.51	93.32	93.51	0.000131	0.11	0.41	2.59	0.08
Reach 1-Upper	698	100YrCHI3Hr	0.05	93.24	93.51	93.32	93.51	0.000158	0.12	0.41	2.60	0.09
Reach 1-Upper	698	2YrSCS24Hr	0.02	93.24	93.31	93.30	93.32	0.016098	0.46	0.05	1.16	0.69
Reach 1-Upper	698	5YrSCS24Hr	0.03	93.24	93.31	93.31	93.33	0.033358	0.64	0.05	1.14	0.98
Reach 1-Upper	698	10YrSCS24Hr	0.04	93.24	93.41	93.31	93.41	0.000855	0.18	0.20	1.88	0.18
Reach 1-Upper	698	25YrSCS24Hr	0.04	93.24	93.51	93.32	93.51	0.000135	0.11	0.41	2.59	0.08
Reach 1-Upper	698	50YrSCS24Hr	0.05	93.24	93.51	93.32	93.51	0.000162	0.12	0.41	2.61	0.09
Reach 1-Upper	698	100YrSCS24Hr	0.06	93.24	93.51	93.33	93.52	0.000196	0.13	0.42	2.63	0.10
Reach 1-Upper	681	2YrCHI3Hr	0.02	93.14	93.22	93.19	93.22	0.003726	0.23	0.08	1.65	0.34
Reach 1-Upper	681	5YrCHI3Hr	0.03	93.14	93.24	93.20	93.25	0.001985	0.21	0.13	1.84	0.26
Reach 1-Upper	681	10YrCHI3Hr	0.03	93.14	93.27	93.20	93.27	0.001166	0.19	0.17	2.00	0.21
Reach 1-Upper	681	25YrCHI3Hr	0.04	93.14	93.37	93.20	93.37	0.000122	0.09	0.42	2.74	0.07

HEC-RAS Plan: 20250910-Post_Dev_v02 River: River 1 Reach: Reach 1-Upper (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
Reach 1-Upper	681	50YrCHI3Hr	0.04	93.14	93.51	93.21	93.51	0.000021	0.05	0.87	4.05	0.03
Reach 1-Upper	681	100YrCHI3Hr	0.05	93.14	93.51	93.21	93.51	0.000026	0.06	0.88	4.08	0.04
Reach 1-Upper	681	2YrSCS24Hr	0.02	93.14	93.24	93.19	93.24	0.002292	0.21	0.11	1.78	0.27
Reach 1-Upper	681	5YrSCS24Hr	0.03	93.14	93.28	93.20	93.28	0.000837	0.17	0.19	2.07	0.18
Reach 1-Upper	681	10YrSCS24Hr	0.04	93.14	93.41	93.20	93.41	0.000067	0.07	0.52	2.97	0.05
Reach 1-Upper	681	25YrSCS24Hr	0.04	93.14	93.51	93.21	93.51	0.000022	0.05	0.87	4.07	0.03
Reach 1-Upper	681	50YrSCS24Hr	0.05	93.14	93.51	93.21	93.51	0.000027	0.06	0.88	4.09	0.04
Reach 1-Upper	681	100YrSCS24Hr	0.06	93.14	93.51	93.22	93.51	0.000033	0.06	0.89	4.13	0.04
Reach 1-Upper	663	2YrCHI3Hr	0.02	93.05	93.19		93.19	0.000887	0.16	0.12	1.35	0.18
Reach 1-Upper	663	5YrCHI3Hr	0.03	93.05	93.22		93.23	0.000652	0.16	0.17	1.60	0.16
Reach 1-Upper	663	10YrCHI3Hr	0.03	93.05	93.25		93.25	0.000460	0.15	0.22	1.80	0.13
Reach 1-Upper	663	25YrCHI3Hr	0.04	93.05	93.37		93.37	0.000079	0.08	0.48	2.67	0.06
Reach 1-Upper	663	50YrCHI3Hr	0.04	93.05	93.51		93.51	0.000018	0.05	0.96	4.41	0.03
Reach 1-Upper	663	100YrCHI3Hr	0.05	93.05	93.51		93.51	0.000022	0.05	0.96	4.44	0.03
Reach 1-Upper	663	2YrSCS24Hr	0.02	93.05	93.22		93.22	0.000662	0.16	0.15	1.54	0.16
Reach 1-Upper	663	5YrSCS24Hr	0.03	93.05	93.27		93.27	0.000342	0.13	0.24	1.90	0.12
Reach 1-Upper	663	10YrSCS24Hr	0.04	93.05	93.40		93.40	0.000049	0.06	0.57	3.04	0.05
Reach 1-Upper	663	25YrSCS24Hr	0.04	93.05	93.51		93.51	0.000019	0.05	0.96	4.42	0.03
Reach 1-Upper	663	50YrSCS24Hr	0.05	93.05	93.51		93.51	0.000023	0.05	0.97	4.46	0.03
Reach 1-Upper	663	100YrSCS24Hr	0.06	93.05	93.51		93.51	0.000028	0.06	0.98	4.50	0.04
Reach 1-Upper	656	2YrCHI3Hr	0.06	93.03	93.15	93.12	93.16	0.007897	0.46	0.13	1.69	0.53
Reach 1-Upper	656	5YrCHI3Hr	0.10	93.03	93.19	93.14	93.20	0.006746	0.51	0.20	1.91	0.51
Reach 1-Upper	656	10YrCHI3Hr	0.13	93.03	93.23	93.16	93.24	0.004563	0.48	0.27	2.12	0.43
Reach 1-Upper	656	25YrCHI3Hr	0.17	93.03	93.36	93.18	93.37	0.000762	0.28	0.62	2.87	0.19
Reach 1-Upper	656	50YrCHI3Hr	0.20	93.03	93.51	93.19	93.51	0.000191	0.19	1.16	4.64	0.10
Reach 1-Upper	656	100YrCHI3Hr	0.24	93.03	93.51	93.20	93.51	0.000260	0.22	1.17	4.65	0.12
Reach 1-Upper	656	2YrSCS24Hr	0.09	93.03	93.18	93.14	93.19	0.007161	0.50	0.18	1.86	0.52
Reach 1-Upper	656	5YrSCS24Hr	0.14	93.03	93.24	93.17	93.25	0.003570	0.45	0.31	2.22	0.39
Reach 1-Upper	656	10YrSCS24Hr	0.18	93.03	93.40	93.18	93.40	0.000513	0.24	0.73	3.49	0.16
Reach 1-Upper	656	25YrSCS24Hr	0.22	93.03	93.51	93.20	93.51	0.000228	0.21	1.16	4.65	0.11
Reach 1-Upper	656	50YrSCS24Hr	0.26	93.03	93.51	93.21	93.51	0.000307	0.24	1.17	4.66	0.13
Reach 1-Upper	656	100YrSCS24Hr	0.30	93.03	93.51	93.22	93.51	0.000401	0.28	1.17	4.67	0.15
Reach 1-Upper	638	2YrCHI3Hr	0.06	92.92	93.08	93.01	93.08	0.002811	0.33	0.19	1.85	0.33
Reach 1-Upper	638	5YrCHI3Hr	0.10	92.92	93.14	93.04	93.14	0.001935	0.33	0.31	2.24	0.28
Reach 1-Upper	638	10YrCHI3Hr	0.13	92.92	93.19	93.05	93.20	0.001151	0.29	0.45	2.68	0.23
Reach 1-Upper	638	25YrCHI3Hr	0.17	92.92	93.36	93.07	93.36	0.000204	0.17	1.05	4.59	0.10
Reach 1-Upper	638	50YrCHI3Hr	0.20	92.92	93.50	93.08	93.50	0.000071	0.13	1.86	6.83	0.06
Reach 1-Upper	638	100YrCHI3Hr	0.24	92.92	93.50	93.10	93.51	0.000098	0.15	1.86	6.83	0.08
Reach 1-Upper	638	2YrSCS24Hr	0.09	92.92	93.12	93.03	93.12	0.002263	0.34	0.27	2.12	0.30
Reach 1-Upper	638	5YrSCS24Hr	0.14	92.92	93.22	93.06	93.22	0.000920	0.27	0.52	2.92	0.20
Reach 1-Upper	638	10YrSCS24Hr	0.18	92.92	93.40	93.07	93.40	0.000146	0.16	1.22	5.04	0.09
Reach 1-Upper	638	25YrSCS24Hr	0.22	92.92	93.50	93.09	93.51	0.000085	0.14	1.86	6.83	0.07
Reach 1-Upper	638	50YrSCS24Hr	0.26	92.92	93.50	93.10	93.51	0.000115	0.16	1.86	6.84	0.08
Reach 1-Upper	638	100YrSCS24Hr	0.30	92.92	93.50	93.12	93.51	0.000152	0.18	1.87	6.84	0.09
Reach 1-Upper	617	2YrCHI3Hr	0.06	92.84	93.02	92.95	93.02	0.002976	0.32	0.19	2.05	0.33
Reach 1-Upper	617	5YrCHI3Hr	0.10	92.84	93.11	92.98	93.11	0.000952	0.24	0.43	2.97	0.20
Reach 1-Upper	617	10YrCHI3Hr	0.13	92.84	93.18	92.99	93.18	0.000487	0.20	0.66	3.68	0.15
Reach 1-Upper	617	25YrCHI3Hr	0.17	92.84	93.36	93.01	93.36	0.000104	0.11	1.56	6.63	0.07
Reach 1-Upper	617	50YrCHI3Hr	0.20	92.84	93.50	93.02	93.50	0.000032	0.07	2.93	15.16	0.04
Reach 1-Upper	617	100YrCHI3Hr	0.24	92.84	93.50	93.04	93.50	0.000044	0.09	2.93	15.17	0.05
Reach 1-Upper	617	2YrSCS24Hr	0.09	92.84	93.08	92.97	93.09	0.001249	0.26	0.35	2.72	0.23
Reach 1-Upper	617	5YrSCS24Hr	0.14	92.84	93.21	93.00	93.21	0.000388	0.18	0.77	4.08	0.13
Reach 1-Upper	617	10YrSCS24Hr	0.18	92.84	93.39	93.01	93.39	0.000078	0.10	1.82	7.56	0.06
Reach 1-Upper	617	25YrSCS24Hr	0.22	92.84	93.50	93.03	93.50	0.000038	0.08	2.93	15.17	0.05
Reach 1-Upper	617	50YrSCS24Hr	0.26	92.84	93.50	93.04	93.50	0.000052	0.09	2.93	15.17	0.05
Reach 1-Upper	617	100YrSCS24Hr	0.30	92.84	93.50	93.06	93.50	0.000069	0.11	2.93	15.18	0.06
Reach 1-Upper	598	2YrCHI3Hr	0.06	92.76	93.00	92.86	93.00	0.000514	0.18	0.36	2.60	0.15
Reach 1-Upper	598	5YrCHI3Hr	0.11	92.76	93.10	92.89	93.10	0.000269	0.18	0.61	3.40	0.12
Reach 1-Upper	598	10YrCHI3Hr	0.14	92.76	93.18	92.91	93.18	0.000184	0.18	0.80	5.26	0.10
Reach 1-Upper	598	25YrCHI3Hr	0.19	92.76	93.36	92.92	93.36	0.000070	0.15	1.25	8.76	0.07
Reach 1-Upper	598	50YrCHI3Hr	0.22	92.76	93.50	92.94	93.50	0.000018	0.07	4.94	31.21	0.03
Reach 1-Upper	598	100YrCHI3Hr	0.26	92.76	93.50	92.95	93.50	0.000024	0.09	4.94	31.21	0.04
Reach 1-Upper	598	2YrSCS24Hr	0.10	92.76	93.07	92.88	93.08	0.000317	0.18	0.54	3.19	0.12
Reach 1-Upper	598	5YrSCS24Hr	0.15	92.76	93.20	92.91	93.21	0.000160	0.17	0.87	5.82	0.10
Reach 1-Upper	598	10YrSCS24Hr	0.19	92.76	93.39	92.93	93.39	0.000059	0.14	1.34	9.49	0.06
Reach 1-Upper	598	25YrSCS24Hr	0.24	92.76	93.50	92.94	93.50	0.000021	0.08	4.94	31.21	0.04
Reach 1-Upper	598	50YrSCS24Hr	0.28	92.76	93.50	92.96	93.50	0.000029	0.09	4.93	31.21	0.04
Reach 1-Upper	598	100YrSCS24Hr	0.33	92.76	93.50	92.97	93.50	0.000039	0.11	4.93	31.21	0.05
Reach 1-Upper	589		Culvert									
Reach 1-Upper	581	2YrCHI3Hr	0.06	92.71	92.89	92.81	92.89	0.002034	0.27	0.24	2.66	0.28
Reach 1-Upper	581	5YrCHI3Hr	0.11	92.71	92.93	92.84	92.93	0.001970	0.33	0.33	3.40	0.29
Reach 1-Upper	581	10YrCHI3Hr	0.14	92.71	92.96	92.86	92.97	0.001627	0.34	0.41	4.01	0.27
Reach 1-Upper	581	25YrCHI3Hr	0.19	92.71	93.02	92.88	93.03	0.000990	0.33	0.56	5.14	0.22
Reach 1-Upper	581	50YrCHI3Hr	0.22	92.71	93.13	92.89	93.13	0.000386	0.27	0.83	7.07	0.15
Reach 1-Upper	581	100YrCHI3Hr	0.26	92.71	93.25	92.90	93.25	0.000184	0.23	1.13	30.32	0.11
Reach 1-Upper	581	2YrSCS24Hr	0.10	92.71	92.92	92.84	92.92	0.002055	0.32	0.31	3.20	0.29

HEC-RAS Plan: 20250910-Post_Dev_v02 River: River 1 Reach: Reach 1-Upper (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
Reach 1-Upper	581	5YrSCS24Hr	0.15	92.71	92.97	92.86	92.98	0.001468	0.34	0.44	4.26	0.26
Reach 1-Upper	581	10YrSCS24Hr	0.19	92.71	93.03	92.88	93.04	0.000901	0.32	0.59	5.33	0.21
Reach 1-Upper	581	25YrSCS24Hr	0.24	92.71	93.24	92.89	93.24	0.000175	0.22	1.11	29.51	0.10
Reach 1-Upper	581	50YrSCS24Hr	0.28	92.71	93.25	92.90	93.25	0.000220	0.25	1.13	30.33	0.12
Reach 1-Upper	581	100YrSCS24Hr	0.33	92.71	93.25	92.91	93.25	0.000294	0.29	1.13	30.33	0.14
Reach 1-Upper	572	2YrCHI3Hr	0.06	92.73	92.85	92.82	92.86	0.008674	0.45	0.14	2.02	0.54
Reach 1-Upper	572	5YrCHI3Hr	0.11	92.73	92.90	92.84	92.90	0.004896	0.43	0.26	2.58	0.43
Reach 1-Upper	572	10YrCHI3Hr	0.14	92.73	92.94	92.86	92.94	0.002847	0.38	0.38	3.03	0.34
Reach 1-Upper	572	25YrCHI3Hr	0.19	92.73	93.01	92.87	93.01	0.001251	0.30	0.62	3.87	0.24
Reach 1-Upper	572	50YrCHI3Hr	0.22	92.73	93.12	92.88	93.12	0.000367	0.19	1.14	5.93	0.13
Reach 1-Upper	572	100YrCHI3Hr	0.26	92.73	93.25	92.90	93.25	0.000064	0.10	4.09	35.88	0.06
Reach 1-Upper	572	2YrSCS24Hr	0.10	92.73	92.88	92.84	92.89	0.005817	0.44	0.22	2.44	0.46
Reach 1-Upper	572	5YrSCS24Hr	0.15	92.73	92.95	92.86	92.96	0.002326	0.36	0.43	3.23	0.31
Reach 1-Upper	572	10YrSCS24Hr	0.19	92.73	93.02	92.88	93.03	0.001095	0.28	0.67	4.01	0.22
Reach 1-Upper	572	25YrSCS24Hr	0.24	92.73	93.24	92.89	93.24	0.000067	0.10	3.72	33.49	0.06
Reach 1-Upper	572	50YrSCS24Hr	0.28	92.73	93.25	92.90	93.25	0.000076	0.11	4.10	35.90	0.06
Reach 1-Upper	572	100YrSCS24Hr	0.33	92.73	93.25	92.92	93.25	0.000102	0.13	4.10	35.94	0.07
Reach 1-Upper	555	2YrCHI3Hr	0.06	92.61	92.81	92.71	92.81	0.000982	0.20	0.32	2.99	0.20
Reach 1-Upper	555	5YrCHI3Hr	0.11	92.61	92.87	92.74	92.87	0.000748	0.21	0.52	3.73	0.18
Reach 1-Upper	555	10YrCHI3Hr	0.14	92.61	92.92	92.75	92.92	0.000505	0.19	0.73	4.38	0.15
Reach 1-Upper	555	25YrCHI3Hr	0.19	92.61	93.00	92.77	93.00	0.000277	0.17	1.12	5.37	0.12
Reach 1-Upper	555	50YrCHI3Hr	0.22	92.61	93.12	92.78	93.12	0.000080	0.11	2.69	31.73	0.07
Reach 1-Upper	555	100YrCHI3Hr	0.26	92.61	93.25	92.79	93.25	0.000015	0.06	7.39	40.94	0.03
Reach 1-Upper	555	2YrSCS24Hr	0.10	92.61	92.85	92.73	92.86	0.000843	0.21	0.46	3.51	0.19
Reach 1-Upper	555	5YrSCS24Hr	0.15	92.61	92.94	92.76	92.94	0.000435	0.19	0.82	4.62	0.14
Reach 1-Upper	555	10YrSCS24Hr	0.19	92.61	93.02	92.77	93.02	0.000251	0.16	1.19	5.53	0.11
Reach 1-Upper	555	25YrSCS24Hr	0.24	92.61	93.24	92.79	93.24	0.000016	0.06	6.96	40.67	0.03
Reach 1-Upper	555	50YrSCS24Hr	0.28	92.61	93.25	92.80	93.25	0.000018	0.07	7.39	40.94	0.03
Reach 1-Upper	555	100YrSCS24Hr	0.33	92.61	93.25	92.81	93.25	0.000025	0.08	7.39	40.94	0.04
Reach 1-Upper	534	2YrCHI3Hr	0.06	92.59	92.79	92.69	92.79	0.001542	0.25	0.26	2.47	0.24
Reach 1-Upper	534	5YrCHI3Hr	0.11	92.59	92.85	92.72	92.86	0.001007	0.24	0.46	3.30	0.21
Reach 1-Upper	534	10YrCHI3Hr	0.14	92.59	92.91	92.74	92.91	0.000612	0.21	0.68	6.64	0.17
Reach 1-Upper	534	25YrCHI3Hr	0.19	92.59	93.00	92.76	93.00	0.000148	0.12	2.58	34.75	0.09
Reach 1-Upper	534	50YrCHI3Hr	0.22	92.59	93.12	92.77	93.12	0.000015	0.05	8.09	50.92	0.03
Reach 1-Upper	534	100YrCHI3Hr	0.26	92.59	93.25	92.78	93.25	0.000003	0.03	14.61	51.39	0.01
Reach 1-Upper	534	2YrSCS24Hr	0.10	92.59	92.83	92.71	92.84	0.001197	0.25	0.39	3.05	0.22
Reach 1-Upper	534	5YrSCS24Hr	0.15	92.59	92.93	92.74	92.93	0.000491	0.20	0.89	13.42	0.15
Reach 1-Upper	534	10YrSCS24Hr	0.19	92.59	93.01	92.76	93.01	0.000110	0.11	3.08	38.60	0.07
Reach 1-Upper	534	25YrSCS24Hr	0.24	92.59	93.24	92.78	93.24	0.000003	0.03	14.06	51.35	0.01
Reach 1-Upper	534	50YrSCS24Hr	0.28	92.59	93.25	92.79	93.25	0.000004	0.03	14.61	51.39	0.02
Reach 1-Upper	534	100YrSCS24Hr	0.33	92.59	93.25	92.80	93.25	0.000005	0.04	14.61	51.39	0.02
Reach 1-Upper	510	2YrCHI3Hr	0.06	92.60	92.72	92.68	92.73	0.004446	0.41	0.16	2.77	0.41
Reach 1-Upper	510	5YrCHI3Hr	0.11	92.60	92.82	92.70	92.83	0.001169	0.34	0.32	4.18	0.24
Reach 1-Upper	510	10YrCHI3Hr	0.14	92.60	92.89	92.71	92.90	0.000746	0.33	0.43	5.14	0.20
Reach 1-Upper	510	25YrCHI3Hr	0.19	92.60	92.99	92.73	92.99	0.000465	0.32	0.59	11.84	0.17
Reach 1-Upper	510	50YrCHI3Hr	0.22	92.60	93.11	92.75	93.12	0.000243	0.28	0.79	109.05	0.13
Reach 1-Upper	510	100YrCHI3Hr	0.26	92.60	93.25	92.76	93.25	0.000000	0.01	42.37	109.53	0.00
Reach 1-Upper	510	2YrSCS24Hr	0.10	92.60	92.80	92.69	92.80	0.001471	0.34	0.28	3.82	0.26
Reach 1-Upper	510	5YrSCS24Hr	0.15	92.60	92.91	92.72	92.92	0.000658	0.32	0.47	5.55	0.19
Reach 1-Upper	510	10YrSCS24Hr	0.19	92.60	93.00	92.73	93.01	0.000435	0.31	0.61	13.01	0.16
Reach 1-Upper	510	25YrSCS24Hr	0.24	92.60	93.24	92.75	93.24	0.000000	0.01	41.20	109.49	0.00
Reach 1-Upper	510	50YrSCS24Hr	0.28	92.60	93.25	92.77	93.25	0.000000	0.01	42.37	109.53	0.00
Reach 1-Upper	510	100YrSCS24Hr	0.33	92.60	93.25	92.78	93.25	0.000000	0.01	42.37	109.53	0.01
Reach 1-Upper	505		Culvert									
Reach 1-Upper	502	2YrCHI3Hr	0.07	92.49	92.61	92.57	92.62	0.007737	0.51	0.14	2.26	0.54
Reach 1-Upper	502	5YrCHI3Hr	0.12	92.49	92.65	92.60	92.67	0.006529	0.60	0.20	2.74	0.53
Reach 1-Upper	502	10YrCHI3Hr	0.16	92.49	92.67	92.62	92.70	0.006103	0.66	0.24	3.03	0.52
Reach 1-Upper	502	25YrCHI3Hr	0.21	92.49	92.72	92.64	92.74	0.004564	0.67	0.31	3.72	0.47
Reach 1-Upper	502	50YrCHI3Hr	0.25	92.49	92.80	92.65	92.82	0.002112	0.57	0.43	5.24	0.34
Reach 1-Upper	502	100YrCHI3Hr	0.29	92.49	92.93	92.67	92.94	0.000855	0.47	0.63	7.55	0.23
Reach 1-Upper	502	2YrSCS24Hr	0.11	92.49	92.64	92.59	92.65	0.006707	0.58	0.19	2.62	0.53
Reach 1-Upper	502	5YrSCS24Hr	0.17	92.49	92.68	92.62	92.71	0.005738	0.66	0.26	3.15	0.51
Reach 1-Upper	502	10YrSCS24Hr	0.22	92.49	92.73	92.64	92.75	0.004158	0.66	0.33	3.95	0.45
Reach 1-Upper	502	25YrSCS24Hr	0.27	92.49	92.87	92.66	92.88	0.001286	0.51	0.53	6.24	0.27
Reach 1-Upper	502	50YrSCS24Hr	0.32	92.49	93.02	92.68	93.03	0.000528	0.42	0.76	104.88	0.19
Reach 1-Upper	502	100YrSCS24Hr	0.37	92.49	93.23	92.70	93.24	0.000228	0.34	1.08	105.45	0.13
Reach 1-Upper	493	2YrCHI3Hr	0.07	92.34	92.61	92.42	92.61	0.000133	0.10	0.75	4.68	0.08
Reach 1-Upper	493	5YrCHI3Hr	0.12	92.34	92.65	92.45	92.65	0.000201	0.13	0.96	5.45	0.10
Reach 1-Upper	493	10YrCHI3Hr	0.16	92.34	92.68	92.46	92.68	0.000231	0.14	1.12	5.93	0.10
Reach 1-Upper	493	25YrCHI3Hr	0.21	92.34	92.73	92.47	92.73	0.000214	0.15	1.42	6.71	0.10
Reach 1-Upper	493	50YrCHI3Hr	0.25	92.34	92.81	92.49	92.81	0.000122	0.12	2.01	8.05	0.08
Reach 1-Upper	493	100YrCHI3Hr	0.29	92.34	92.94	92.50	92.94	0.000003	0.02	22.75	101.14	0.01
Reach 1-Upper	493	2YrSCS24Hr	0.11	92.34	92.64	92.44	92.64	0.000184	0.12	0.90	5.25	0.09
Reach 1-Upper	493	5YrSCS24Hr	0.17	92.34	92.69	92.46	92.69	0.000232	0.14	1.18	6.13	0.11
Reach 1-Upper	493	10YrSCS24Hr	0.22	92.34	92.74	92.48	92.74	0.000200	0.15	1.49	6.81	0.10
Reach 1-Upper	493	25YrSCS24Hr	0.27	92.34	92.87	92.49	92.87	0.000073	0.11	2.58	9.70	0.06

HEC-RAS Plan: 20250910-Post_Dev_v02 River: River 1 Reach: Reach 1-Upper (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
Reach 1-Upper	493	50YrSCS24Hr	0.32	92.34	93.03	92.50	93.03	0.000001	0.02	31.90	101.53	0.01
Reach 1-Upper	493	100YrSCS24Hr	0.37	92.34	93.23	92.52	93.23	0.000000	0.01	52.95	102.61	0.00
Reach 1-Upper	474	2YrCHI3Hr	0.07	92.41	92.60	92.50	92.60	0.000597	0.15	0.49	5.07	0.15
Reach 1-Upper	474	5YrCHI3Hr	0.12	92.41	92.64	92.53	92.65	0.000602	0.17	0.72	5.95	0.16
Reach 1-Upper	474	10YrCHI3Hr	0.16	92.41	92.67	92.54	92.67	0.000570	0.18	0.88	6.52	0.16
Reach 1-Upper	474	25YrCHI3Hr	0.21	92.41	92.72	92.55	92.72	0.000404	0.17	1.23	7.58	0.13
Reach 1-Upper	474	50YrCHI3Hr	0.25	92.41	92.81	92.56	92.81	0.000152	0.13	1.98	11.32	0.09
Reach 1-Upper	474	100YrCHI3Hr	0.29	92.41	92.94	92.57	92.94	0.000001	0.01	34.63	91.93	0.01
Reach 1-Upper	474	2YrSCS24Hr	0.11	92.41	92.63	92.52	92.64	0.000604	0.16	0.66	5.73	0.16
Reach 1-Upper	474	5YrSCS24Hr	0.17	92.41	92.68	92.54	92.68	0.000532	0.18	0.96	6.77	0.15
Reach 1-Upper	474	10YrSCS24Hr	0.22	92.41	92.73	92.56	92.73	0.000363	0.16	1.31	7.81	0.13
Reach 1-Upper	474	25YrSCS24Hr	0.27	92.41	92.87	92.57	92.87	0.000001	0.01	28.89	91.64	0.01
Reach 1-Upper	474	50YrSCS24Hr	0.32	92.41	93.03	92.58	93.03	0.000000	0.01	42.95	92.33	0.00
Reach 1-Upper	474	100YrSCS24Hr	0.37	92.41	93.23	92.59	93.23	0.000000	0.01	62.09	93.27	0.00
Reach 1-Upper	454	2YrCHI3Hr	0.07	92.44	92.58	92.51	92.59	0.001604	0.25	0.29	2.89	0.25
Reach 1-Upper	454	5YrCHI3Hr	0.12	92.44	92.62	92.53	92.63	0.001687	0.29	0.42	3.32	0.26
Reach 1-Upper	454	10YrCHI3Hr	0.16	92.44	92.65	92.54	92.66	0.001616	0.31	0.51	3.60	0.26
Reach 1-Upper	454	25YrCHI3Hr	0.21	92.44	92.70	92.56	92.71	0.001084	0.29	0.72	4.18	0.22
Reach 1-Upper	454	50YrCHI3Hr	0.25	92.44	92.80	92.57	92.80	0.000421	0.22	1.17	5.42	0.14
Reach 1-Upper	454	100YrCHI3Hr	0.29	92.44	92.94	92.58	92.94	0.000003	0.02	20.32	83.17	0.01
Reach 1-Upper	454	2YrSCS24Hr	0.11	92.44	92.61	92.52	92.62	0.001708	0.28	0.38	3.20	0.26
Reach 1-Upper	454	5YrSCS24Hr	0.17	92.44	92.66	92.55	92.67	0.001485	0.31	0.56	3.74	0.25
Reach 1-Upper	454	10YrSCS24Hr	0.22	92.44	92.72	92.56	92.72	0.000949	0.28	0.77	4.30	0.21
Reach 1-Upper	454	25YrSCS24Hr	0.27	92.44	92.87	92.58	92.87	0.000007	0.03	15.12	82.99	0.02
Reach 1-Upper	454	50YrSCS24Hr	0.32	92.44	93.03	92.59	93.03	0.000001	0.02	27.84	83.45	0.01
Reach 1-Upper	454	100YrSCS24Hr	0.37	92.44	93.23	92.60	93.23	0.000000	0.01	45.11	84.07	0.01
Reach 1-Upper	434	2YrCHI3Hr	0.07	92.42	92.54	92.49	92.54	0.003131	0.30	0.24	2.93	0.33
Reach 1-Upper	434	5YrCHI3Hr	0.12	92.42	92.58	92.51	92.59	0.002184	0.32	0.39	3.35	0.30
Reach 1-Upper	434	10YrCHI3Hr	0.16	92.42	92.61	92.52	92.62	0.001764	0.32	0.50	3.63	0.27
Reach 1-Upper	434	25YrCHI3Hr	0.21	92.42	92.70	92.53	92.70	0.000136	0.10	3.47	39.92	0.08
Reach 1-Upper	434	50YrCHI3Hr	0.25	92.42	92.80	92.55	92.80	0.000022	0.05	9.17	73.84	0.03
Reach 1-Upper	434	100YrCHI3Hr	0.29	92.42	92.94	92.56	92.94	0.000003	0.03	19.34	74.32	0.01
Reach 1-Upper	434	2YrSCS24Hr	0.11	92.42	92.57	92.50	92.57	0.002416	0.31	0.34	3.23	0.31
Reach 1-Upper	434	5YrSCS24Hr	0.17	92.42	92.63	92.52	92.64	0.001606	0.31	0.56	4.00	0.26
Reach 1-Upper	434	10YrSCS24Hr	0.22	92.42	92.71	92.54	92.71	0.000108	0.09	4.02	43.59	0.07
Reach 1-Upper	434	25YrSCS24Hr	0.27	92.42	92.87	92.55	92.87	0.000006	0.03	14.69	74.10	0.02
Reach 1-Upper	434	50YrSCS24Hr	0.32	92.42	93.03	92.56	93.03	0.000001	0.02	26.07	74.63	0.01
Reach 1-Upper	434	100YrSCS24Hr	0.37	92.42	93.23	92.57	93.23	0.000000	0.01	41.53	75.37	0.01
Reach 1-Upper	416	2YrCHI3Hr	0.07	92.34	92.52	92.42	92.52	0.000594	0.15	0.47	4.81	0.15
Reach 1-Upper	416	5YrCHI3Hr	0.12	92.34	92.57	92.45	92.57	0.000421	0.17	0.75	5.85	0.14
Reach 1-Upper	416	10YrCHI3Hr	0.16	92.34	92.61	92.46	92.61	0.000173	0.13	2.14	28.43	0.09
Reach 1-Upper	416	25YrCHI3Hr	0.21	92.34	92.70	92.47	92.70	0.000038	0.08	4.95	34.66	0.05
Reach 1-Upper	416	50YrCHI3Hr	0.25	92.34	92.80	92.48	92.80	0.000012	0.05	8.86	43.80	0.03
Reach 1-Upper	416	100YrCHI3Hr	0.29	92.34	92.94	92.49	92.94	0.000004	0.04	16.28	66.50	0.02
Reach 1-Upper	416	2YrSCS24Hr	0.11	92.34	92.56	92.44	92.56	0.000460	0.17	0.67	5.57	0.14
Reach 1-Upper	416	5YrSCS24Hr	0.17	92.34	92.63	92.46	92.63	0.000124	0.11	2.65	29.68	0.08
Reach 1-Upper	416	10YrSCS24Hr	0.22	92.34	92.71	92.47	92.71	0.000032	0.07	5.42	35.57	0.04
Reach 1-Upper	416	25YrSCS24Hr	0.27	92.34	92.87	92.49	92.87	0.000006	0.04	12.48	53.40	0.02
Reach 1-Upper	416	50YrSCS24Hr	0.32	92.34	93.03	92.49	93.03	0.000002	0.03	22.33	67.07	0.01
Reach 1-Upper	416	100YrSCS24Hr	0.37	92.34	93.23	92.50	93.23	0.000001	0.02	36.24	67.81	0.01
Reach 1-Upper	398	2YrCHI3Hr	0.07	92.28	92.50	92.40	92.51	0.000938	0.22	0.33	2.54	0.20
Reach 1-Upper	398	5YrCHI3Hr	0.12	92.28	92.56	92.42	92.56	0.000913	0.26	0.48	2.86	0.20
Reach 1-Upper	398	10YrCHI3Hr	0.16	92.28	92.60	92.44	92.61	0.000768	0.26	0.61	3.13	0.19
Reach 1-Upper	398	25YrCHI3Hr	0.21	92.28	92.70	92.46	92.70	0.000401	0.23	0.93	4.03	0.14
Reach 1-Upper	398	50YrCHI3Hr	0.25	92.28	92.80	92.47	92.80	0.000150	0.16	2.51	35.14	0.09
Reach 1-Upper	398	100YrCHI3Hr	0.29	92.28	92.94	92.48	92.94	0.000018	0.07	9.30	58.44	0.03
Reach 1-Upper	398	2YrSCS24Hr	0.11	92.28	92.54	92.42	92.55	0.000934	0.25	0.43	2.78	0.20
Reach 1-Upper	398	5YrSCS24Hr	0.17	92.28	92.62	92.44	92.62	0.000689	0.26	0.67	3.24	0.18
Reach 1-Upper	398	10YrSCS24Hr	0.22	92.28	92.71	92.46	92.71	0.000365	0.22	0.99	4.50	0.14
Reach 1-Upper	398	25YrSCS24Hr	0.27	92.28	92.87	92.48	92.87	0.000042	0.10	5.90	48.09	0.05
Reach 1-Upper	398	50YrSCS24Hr	0.32	92.28	93.03	92.49	93.03	0.000006	0.04	14.60	58.70	0.02
Reach 1-Upper	398	100YrSCS24Hr	0.37	92.28	93.23	92.50	93.23	0.000001	0.02	26.77	59.29	0.01
Reach 1-Upper	383	2YrCHI3Hr	0.07	92.34	92.47	92.42	92.48	0.004360	0.39	0.19	1.94	0.40
Reach 1-Upper	383	5YrCHI3Hr	0.12	92.34	92.53	92.45	92.54	0.002848	0.39	0.31	2.30	0.34
Reach 1-Upper	383	10YrCHI3Hr	0.16	92.34	92.58	92.46	92.59	0.001812	0.36	0.43	2.59	0.28
Reach 1-Upper	383	25YrCHI3Hr	0.21	92.34	92.69	92.48	92.69	0.000720	0.28	0.74	3.18	0.19
Reach 1-Upper	383	50YrCHI3Hr	0.25	92.34	92.79	92.50	92.80	0.000334	0.22	1.11	3.78	0.13
Reach 1-Upper	383	100YrCHI3Hr	0.29	92.34	92.93	92.51	92.94	0.000138	0.17	1.71	4.83	0.09
Reach 1-Upper	383	2YrSCS24Hr	0.11	92.34	92.51	92.44	92.52	0.003235	0.40	0.27	2.21	0.36
Reach 1-Upper	383	5YrSCS24Hr	0.17	92.34	92.60	92.47	92.61	0.001493	0.35	0.49	2.71	0.26
Reach 1-Upper	383	10YrSCS24Hr	0.22	92.34	92.70	92.49	92.70	0.000650	0.28	0.78	3.26	0.18
Reach 1-Upper	383	25YrSCS24Hr	0.27	92.34	92.87	92.51	92.87	0.000205	0.19	1.42	4.21	0.11
Reach 1-Upper	383	50YrSCS24Hr	0.32	92.34	93.03	92.52	93.03	0.000014	0.06	10.30	51.61	0.03
Reach 1-Upper	383	100YrSCS24Hr	0.37	92.34	93.23	92.53	93.23	0.000002	0.03	21.02	52.21	0.01
Reach 1-Upper	364	2YrCHI3Hr	0.07	92.23	92.43	92.33	92.44	0.001347	0.27	0.27	2.04	0.23
Reach 1-Upper	364	5YrCHI3Hr	0.12	92.23	92.50	92.36	92.51	0.001091	0.29	0.42	2.38	0.22

HEC-RAS Plan: 20250910-Post_Dev_v02 River: River 1 Reach: Reach 1-Upper (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
Reach 1-Upper	364	10YrCHI3Hr	0.16	92.23	92.56	92.38	92.57	0.000763	0.28	0.57	2.68	0.19
Reach 1-Upper	364	25YrCHI3Hr	0.21	92.23	92.68	92.40	92.68	0.000366	0.23	0.92	3.24	0.14
Reach 1-Upper	364	50YrCHI3Hr	0.25	92.23	92.79	92.41	92.79	0.000203	0.19	1.31	3.88	0.11
Reach 1-Upper	364	100YrCHI3Hr	0.29	92.23	92.93	92.43	92.93	0.000094	0.15	1.98	5.87	0.07
Reach 1-Upper	364	2YrSCS24Hr	0.11	92.23	92.48	92.35	92.49	0.001191	0.29	0.37	2.28	0.23
Reach 1-Upper	364	5YrSCS24Hr	0.17	92.23	92.59	92.38	92.59	0.000655	0.27	0.64	2.80	0.18
Reach 1-Upper	364	10YrSCS24Hr	0.22	92.23	92.69	92.40	92.70	0.000339	0.22	0.97	3.32	0.13
Reach 1-Upper	364	25YrSCS24Hr	0.27	92.23	92.87	92.42	92.87	0.000135	0.17	1.64	4.67	0.09
Reach 1-Upper	364	50YrSCS24Hr	0.32	92.23	93.03	92.44	93.03	0.000033	0.10	5.95	44.01	0.05
Reach 1-Upper	364	100YrSCS24Hr	0.37	92.23	93.23	92.45	93.23	0.000005	0.04	15.12	44.59	0.02
Reach 1-Upper	347	2YrCHI3Hr	0.07	92.26	92.41	92.33	92.41	0.001311	0.25	0.29	2.48	0.23
Reach 1-Upper	347	5YrCHI3Hr	0.12	92.26	92.49	92.35	92.49	0.000799	0.25	0.49	2.81	0.19
Reach 1-Upper	347	10YrCHI3Hr	0.16	92.26	92.55	92.36	92.56	0.000505	0.23	0.69	3.09	0.16
Reach 1-Upper	347	25YrCHI3Hr	0.21	92.26	92.67	92.38	92.68	0.000235	0.19	1.09	3.61	0.11
Reach 1-Upper	347	50YrCHI3Hr	0.25	92.26	92.79	92.39	92.79	0.000131	0.16	1.52	4.09	0.09
Reach 1-Upper	347	100YrCHI3Hr	0.29	92.26	92.93	92.41	92.93	0.000067	0.13	2.17	5.17	0.06
Reach 1-Upper	347	2YrSCS24Hr	0.11	92.26	92.46	92.34	92.47	0.000924	0.25	0.43	2.71	0.20
Reach 1-Upper	347	5YrSCS24Hr	0.17	92.26	92.58	92.37	92.58	0.000426	0.22	0.77	3.20	0.14
Reach 1-Upper	347	10YrSCS24Hr	0.22	92.26	92.69	92.38	92.69	0.000218	0.19	1.15	3.67	0.11
Reach 1-Upper	347	25YrSCS24Hr	0.27	92.26	92.87	92.40	92.87	0.000091	0.15	1.87	4.46	0.07
Reach 1-Upper	347	50YrSCS24Hr	0.32	92.26	93.03	92.41	93.03	0.000042	0.12	2.84	10.46	0.05
Reach 1-Upper	347	100YrSCS24Hr	0.37	92.26	93.23	92.43	93.23	0.000008	0.06	10.68	37.82	0.02
Reach 1-Upper	328	2YrCHI3Hr	0.07	92.20	92.38	92.29	92.38	0.001752	0.30	0.24	1.87	0.27
Reach 1-Upper	328	5YrCHI3Hr	0.12	92.20	92.47	92.32	92.47	0.001008	0.29	0.42	2.25	0.21
Reach 1-Upper	328	10YrCHI3Hr	0.16	92.20	92.54	92.33	92.54	0.000638	0.26	0.60	2.55	0.17
Reach 1-Upper	328	25YrCHI3Hr	0.21	92.20	92.67	92.36	92.67	0.000304	0.22	0.95	3.08	0.13
Reach 1-Upper	328	50YrCHI3Hr	0.25	92.20	92.78	92.37	92.78	0.000178	0.19	1.34	3.69	0.10
Reach 1-Upper	328	100YrCHI3Hr	0.29	92.20	92.93	92.39	92.93	0.000093	0.15	1.96	4.66	0.07
Reach 1-Upper	328	2YrSCS24Hr	0.11	92.20	92.44	92.31	92.45	0.001172	0.29	0.37	2.14	0.23
Reach 1-Upper	328	5YrSCS24Hr	0.17	92.20	92.57	92.34	92.57	0.000541	0.26	0.67	2.67	0.16
Reach 1-Upper	328	10YrSCS24Hr	0.22	92.20	92.68	92.36	92.69	0.000283	0.22	1.00	3.14	0.12
Reach 1-Upper	328	25YrSCS24Hr	0.27	92.20	92.86	92.38	92.87	0.000127	0.16	1.67	4.31	0.08
Reach 1-Upper	328	50YrSCS24Hr	0.32	92.20	93.02	92.40	93.02	0.000064	0.13	2.44	5.46	0.06
Reach 1-Upper	328	100YrSCS24Hr	0.37	92.20	93.23	92.41	93.23	0.000014	0.07	8.02	29.79	0.03
Reach 1-Upper	306	2YrCHI3Hr	0.07	92.07	92.36	92.19	92.36	0.000723	0.26	0.28	1.53	0.18
Reach 1-Upper	306	5YrCHI3Hr	0.12	92.07	92.45	92.22	92.45	0.000687	0.30	0.40	1.84	0.18
Reach 1-Upper	306	10YrCHI3Hr	0.16	92.07	92.53	92.25	92.53	0.000564	0.31	0.51	2.11	0.17
Reach 1-Upper	306	25YrCHI3Hr	0.21	92.07	92.66	92.27	92.66	0.000340	0.29	0.71	2.60	0.14
Reach 1-Upper	306	50YrCHI3Hr	0.25	92.07	92.78	92.29	92.78	0.000232	0.28	0.89	3.10	0.12
Reach 1-Upper	306	100YrCHI3Hr	0.29	92.07	92.92	92.31	92.93	0.000151	0.26	1.11	3.98	0.10
Reach 1-Upper	306	2YrSCS24Hr	0.11	92.07	92.42	92.22	92.43	0.000711	0.29	0.37	1.75	0.18
Reach 1-Upper	306	5YrSCS24Hr	0.17	92.07	92.56	92.26	92.56	0.000514	0.31	0.56	2.21	0.16
Reach 1-Upper	306	10YrSCS24Hr	0.22	92.07	92.67	92.28	92.68	0.000325	0.29	0.74	2.67	0.13
Reach 1-Upper	306	25YrSCS24Hr	0.27	92.07	92.86	92.31	92.86	0.000182	0.27	1.01	3.45	0.11
Reach 1-Upper	306	50YrSCS24Hr	0.32	92.07	93.02	92.32	93.02	0.000121	0.25	1.25	4.84	0.09
Reach 1-Upper	306	100YrSCS24Hr	0.37	92.07	93.23	92.34	93.23	0.000077	0.24	1.57	20.82	0.07
Reach 1-Upper	300		Culvert									
Reach 1-Upper	294	2YrCHI3Hr	0.07	92.15	92.32	92.23	92.33	0.001574	0.32	0.23	2.11	0.26
Reach 1-Upper	294	5YrCHI3Hr	0.12	92.15	92.37	92.26	92.38	0.001843	0.41	0.30	2.35	0.30
Reach 1-Upper	294	10YrCHI3Hr	0.16	92.15	92.39	92.27	92.40	0.002090	0.48	0.33	2.47	0.32
Reach 1-Upper	294	25YrCHI3Hr	0.21	92.15	92.42	92.30	92.44	0.002418	0.56	0.38	2.62	0.35
Reach 1-Upper	294	50YrCHI3Hr	0.25	92.15	92.44	92.31	92.46	0.002632	0.61	0.41	2.73	0.37
Reach 1-Upper	294	100YrCHI3Hr	0.29	92.15	92.46	92.33	92.49	0.002788	0.66	0.44	2.84	0.39
Reach 1-Upper	294	2YrSCS24Hr	0.11	92.15	92.36	92.25	92.36	0.001772	0.39	0.28	2.29	0.29
Reach 1-Upper	294	5YrSCS24Hr	0.17	92.15	92.40	92.28	92.41	0.002190	0.50	0.34	2.51	0.33
Reach 1-Upper	294	10YrSCS24Hr	0.22	92.15	92.42	92.30	92.44	0.002481	0.57	0.38	2.64	0.36
Reach 1-Upper	294	25YrSCS24Hr	0.27	92.15	92.45	92.32	92.48	0.002750	0.64	0.43	2.79	0.39
Reach 1-Upper	294	50YrSCS24Hr	0.32	92.15	92.48	92.34	92.50	0.002924	0.70	0.46	2.90	0.40
Reach 1-Upper	294	100YrSCS24Hr	0.37	92.15	92.50	92.35	92.53	0.003160	0.76	0.49	3.01	0.42
Reach 1-Upper	279	2YrCHI3Hr	0.09	92.08	92.21	92.21	92.25	0.030968	0.83	0.10	1.54	1.01
Reach 1-Upper	279	5YrCHI3Hr	0.15	92.08	92.25	92.24	92.29	0.025757	0.90	0.16	1.85	0.97
Reach 1-Upper	279	10YrCHI3Hr	0.20	92.08	92.28		92.32	0.017921	0.87	0.23	2.03	0.83
Reach 1-Upper	279	25YrCHI3Hr	0.26	92.08	92.31		92.35	0.013590	0.86	0.30	2.25	0.75
Reach 1-Upper	279	50YrCHI3Hr	0.31	92.08	92.34		92.38	0.011935	0.87	0.36	2.40	0.71
Reach 1-Upper	279	100YrCHI3Hr	0.37	92.08	92.36		92.40	0.010878	0.88	0.42	2.54	0.69
Reach 1-Upper	279	2YrSCS24Hr	0.13	92.08	92.24	92.24	92.28	0.028026	0.89	0.15	1.77	1.00
Reach 1-Upper	279	5YrSCS24Hr	0.21	92.08	92.29		92.33	0.016973	0.87	0.24	2.08	0.82
Reach 1-Upper	279	10YrSCS24Hr	0.27	92.08	92.32		92.36	0.013275	0.86	0.31	2.27	0.74
Reach 1-Upper	279	25YrSCS24Hr	0.34	92.08	92.35		92.39	0.011320	0.87	0.39	2.47	0.70
Reach 1-Upper	279	50YrSCS24Hr	0.40	92.08	92.38		92.42	0.010426	0.89	0.45	2.61	0.68
Reach 1-Upper	279	100YrSCS24Hr	0.47	92.08	92.40		92.44	0.009682	0.90	0.52	2.76	0.67
Reach 1-Upper	277	2YrCHI3Hr	0.09	91.95	92.21		92.21	0.000715	0.22	0.40	2.73	0.18
Reach 1-Upper	277	5YrCHI3Hr	0.15	91.95	92.26		92.26	0.000859	0.28	0.55	3.02	0.20
Reach 1-Upper	277	10YrCHI3Hr	0.20	91.95	92.29		92.29	0.000926	0.32	0.64	3.19	0.21
Reach 1-Upper	277	25YrCHI3Hr	0.26	91.95	92.32		92.33	0.000998	0.37	0.75	3.39	0.23
Reach 1-Upper	277	50YrCHI3Hr	0.31	91.95	92.35		92.36	0.001055	0.40	0.84	3.52	0.24

HEC-RAS Plan: 20250910-Post_Dev_v02 River: River 1 Reach: Reach 1-Upper (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
Reach 1-Upper	277	100YrCHI3Hr	0.37	91.95	92.37		92.38	0.001115	0.43	0.92	3.65	0.25
Reach 1-Upper	277	2YrSCS24Hr	0.13	91.95	92.25		92.25	0.000829	0.26	0.51	2.95	0.20
Reach 1-Upper	277	5YrSCS24Hr	0.21	91.95	92.30		92.30	0.000956	0.33	0.66	3.23	0.22
Reach 1-Upper	277	10YrSCS24Hr	0.27	91.95	92.33		92.34	0.001007	0.37	0.77	3.41	0.23
Reach 1-Upper	277	25YrSCS24Hr	0.34	91.95	92.36		92.37	0.001088	0.42	0.88	3.60	0.24
Reach 1-Upper	277	50YrSCS24Hr	0.40	91.95	92.39		92.40	0.001147	0.45	0.97	3.73	0.25
Reach 1-Upper	277	100YrSCS24Hr	0.47	91.95	92.41		92.42	0.001203	0.48	1.06	3.86	0.26
Reach 1-Upper	270	2YrCHI3Hr	0.09	92.03	92.20		92.20	0.001702	0.28	0.31	2.65	0.26
Reach 1-Upper	270	5YrCHI3Hr	0.15	92.03	92.25		92.26	0.001752	0.33	0.45	3.08	0.28
Reach 1-Upper	270	10YrCHI3Hr	0.20	92.03	92.28		92.29	0.001743	0.36	0.54	3.36	0.28
Reach 1-Upper	270	25YrCHI3Hr	0.26	92.03	92.31		92.32	0.001731	0.40	0.67	3.69	0.29
Reach 1-Upper	270	50YrCHI3Hr	0.31	92.03	92.34		92.35	0.001733	0.42	0.76	3.96	0.29
Reach 1-Upper	270	100YrCHI3Hr	0.37	92.03	92.36		92.37	0.001677	0.44	0.86	4.77	0.29
Reach 1-Upper	270	2YrSCS24Hr	0.13	92.03	92.24		92.24	0.001762	0.32	0.41	2.96	0.27
Reach 1-Upper	270	5YrSCS24Hr	0.21	92.03	92.29		92.29	0.001769	0.37	0.57	3.43	0.28
Reach 1-Upper	270	10YrSCS24Hr	0.27	92.03	92.32		92.33	0.001732	0.40	0.68	3.72	0.29
Reach 1-Upper	270	25YrSCS24Hr	0.34	92.03	92.35		92.36	0.001702	0.43	0.81	4.41	0.29
Reach 1-Upper	270	50YrSCS24Hr	0.40	92.03	92.38		92.39	0.001650	0.45	0.93	5.21	0.29
Reach 1-Upper	270	100YrSCS24Hr	0.47	92.03	92.40		92.41	0.001589	0.48	1.06	5.67	0.29
Reach 1-Upper	261	2YrCHI3Hr	0.09	92.00	92.18	92.10	92.19	0.002251	0.33	0.26	2.11	0.30
Reach 1-Upper	261	5YrCHI3Hr	0.15	92.00	92.23	92.13	92.24	0.002551	0.41	0.36	2.34	0.33
Reach 1-Upper	261	10YrCHI3Hr	0.20	92.00	92.26	92.15	92.27	0.002717	0.45	0.43	2.48	0.35
Reach 1-Upper	261	25YrCHI3Hr	0.26	92.00	92.29	92.17	92.30	0.002863	0.50	0.52	2.64	0.36
Reach 1-Upper	261	50YrCHI3Hr	0.31	92.00	92.31	92.19	92.33	0.002989	0.54	0.58	2.75	0.38
Reach 1-Upper	261	100YrCHI3Hr	0.37	92.00	92.34	92.21	92.35	0.003096	0.57	0.64	2.86	0.39
Reach 1-Upper	261	2YrSCS24Hr	0.13	92.00	92.22	92.12	92.22	0.002475	0.39	0.33	2.28	0.32
Reach 1-Upper	261	5YrSCS24Hr	0.21	92.00	92.26	92.16	92.28	0.002821	0.47	0.45	2.51	0.36
Reach 1-Upper	261	10YrSCS24Hr	0.27	92.00	92.29	92.18	92.31	0.002885	0.51	0.53	2.66	0.37
Reach 1-Upper	261	25YrSCS24Hr	0.34	92.00	92.33	92.20	92.34	0.003049	0.56	0.61	2.81	0.38
Reach 1-Upper	261	50YrSCS24Hr	0.40	92.00	92.35	92.22	92.37	0.003150	0.59	0.68	2.92	0.39
Reach 1-Upper	261	100YrSCS24Hr	0.47	92.00	92.37	92.23	92.39	0.003253	0.62	0.75	3.06	0.40
Reach 1-Upper	239	2YrCHI3Hr	0.09	91.93	92.05	92.04	92.07	0.017641	0.69	0.12	1.58	0.78
Reach 1-Upper	239	5YrCHI3Hr	0.15	91.93	92.09	92.07	92.12	0.014089	0.75	0.20	1.89	0.73
Reach 1-Upper	239	10YrCHI3Hr	0.20	91.93	92.12	92.09	92.15	0.012625	0.78	0.25	2.05	0.71
Reach 1-Upper	239	25YrCHI3Hr	0.26	91.93	92.15	92.11	92.18	0.011287	0.82	0.32	2.22	0.69
Reach 1-Upper	239	50YrCHI3Hr	0.31	91.93	92.17	92.13	92.21	0.010600	0.84	0.37	2.34	0.68
Reach 1-Upper	239	100YrCHI3Hr	0.37	91.93	92.20	92.15	92.23	0.010052	0.87	0.42	2.45	0.67
Reach 1-Upper	239	2YrSCS24Hr	0.13	91.93	92.08	92.06	92.11	0.014856	0.73	0.18	1.80	0.74
Reach 1-Upper	239	5YrSCS24Hr	0.21	91.93	92.13	92.10	92.16	0.012234	0.79	0.27	2.09	0.70
Reach 1-Upper	239	10YrSCS24Hr	0.27	91.93	92.15	92.12	92.19	0.011165	0.82	0.33	2.24	0.69
Reach 1-Upper	239	25YrSCS24Hr	0.34	91.93	92.19	92.14	92.22	0.010287	0.86	0.40	2.40	0.67
Reach 1-Upper	239	50YrSCS24Hr	0.40	91.93	92.21	92.16	92.25	0.009763	0.88	0.45	2.52	0.66
Reach 1-Upper	239	100YrSCS24Hr	0.47	91.93	92.23	92.17	92.27	0.009233	0.90	0.52	2.64	0.65
Reach 1-Upper	218	2YrCHI3Hr	0.09	91.82	91.97	91.90	91.98	0.002011	0.30	0.29	2.50	0.28
Reach 1-Upper	218	5YrCHI3Hr	0.15	91.82	92.02	91.92	92.02	0.002154	0.37	0.41	2.72	0.30
Reach 1-Upper	218	10YrCHI3Hr	0.20	91.82	92.05	91.94	92.05	0.002195	0.40	0.49	2.86	0.31
Reach 1-Upper	218	25YrCHI3Hr	0.26	91.82	92.08	91.96	92.09	0.002317	0.45	0.58	3.01	0.33
Reach 1-Upper	218	50YrCHI3Hr	0.31	91.82	92.10	91.97	92.11	0.002380	0.48	0.65	3.13	0.34
Reach 1-Upper	218	100YrCHI3Hr	0.37	91.82	92.12	91.99	92.14	0.002427	0.51	0.72	3.24	0.34
Reach 1-Upper	218	2YrSCS24Hr	0.13	91.82	92.00	91.92	92.01	0.002121	0.35	0.37	2.66	0.30
Reach 1-Upper	218	5YrSCS24Hr	0.21	91.82	92.05	91.94	92.06	0.002229	0.42	0.51	2.90	0.32
Reach 1-Upper	218	10YrSCS24Hr	0.27	91.82	92.08	91.96	92.09	0.002328	0.45	0.59	3.03	0.33
Reach 1-Upper	218	25YrSCS24Hr	0.34	91.82	92.11	91.98	92.13	0.002406	0.50	0.69	3.19	0.34
Reach 1-Upper	218	50YrSCS24Hr	0.40	91.82	92.14	92.00	92.15	0.002454	0.52	0.77	3.31	0.35
Reach 1-Upper	218	100YrSCS24Hr	0.47	91.82	92.16	92.01	92.18	0.002479	0.55	0.85	3.47	0.35
Reach 1-Upper	197	2YrCHI3Hr	0.09	91.73	91.86	91.84	91.88	0.015766	0.67	0.13	1.59	0.75
Reach 1-Upper	197	5YrCHI3Hr	0.15	91.73	91.90	91.87	91.93	0.013264	0.74	0.20	1.88	0.72
Reach 1-Upper	197	10YrCHI3Hr	0.20	91.73	91.92	91.89	91.96	0.012348	0.78	0.25	2.01	0.71
Reach 1-Upper	197	25YrCHI3Hr	0.26	91.73	91.95	91.92	91.99	0.011605	0.83	0.31	2.16	0.70
Reach 1-Upper	197	50YrCHI3Hr	0.31	91.73	91.98	91.94	92.01	0.010864	0.86	0.36	2.27	0.69
Reach 1-Upper	197	100YrCHI3Hr	0.37	91.73	92.00	91.95	92.04	0.010606	0.90	0.41	2.36	0.69
Reach 1-Upper	197	2YrSCS24Hr	0.13	91.73	91.89	91.87	91.91	0.013909	0.72	0.18	1.81	0.72
Reach 1-Upper	197	5YrSCS24Hr	0.21	91.73	91.93	91.90	91.96	0.012137	0.79	0.27	2.05	0.70
Reach 1-Upper	197	10YrSCS24Hr	0.27	91.73	91.96	91.92	91.99	0.011514	0.84	0.32	2.18	0.70
Reach 1-Upper	197	25YrSCS24Hr	0.34	91.73	91.99	91.95	92.03	0.010714	0.88	0.39	2.32	0.69
Reach 1-Upper	197	50YrSCS24Hr	0.40	91.73	92.01	91.96	92.05	0.010482	0.92	0.44	2.41	0.69
Reach 1-Upper	197	100YrSCS24Hr	0.47	91.73	92.03	91.98	92.08	0.010295	0.95	0.49	2.51	0.69
Reach 1-Upper	174	2YrCHI3Hr	0.09	91.52	91.70	91.64	91.71	0.004240	0.42	0.20	1.84	0.40
Reach 1-Upper	174	5YrCHI3Hr	0.15	91.52	91.75	91.67	91.76	0.004464	0.50	0.30	2.18	0.43
Reach 1-Upper	174	10YrCHI3Hr	0.20	91.52	91.78	91.70	91.79	0.004630	0.55	0.36	2.30	0.45
Reach 1-Upper	174	25YrCHI3Hr	0.26	91.52	91.81	91.72	91.82	0.004764	0.60	0.43	2.46	0.46
Reach 1-Upper	174	50YrCHI3Hr	0.31	91.52	91.83	91.74	91.85	0.004920	0.64	0.48	2.56	0.47
Reach 1-Upper	174	100YrCHI3Hr	0.37	91.52	91.85	91.76	91.87	0.005045	0.68	0.54	2.67	0.48
Reach 1-Upper	174	2YrSCS24Hr	0.13	91.52	91.74	91.67	91.75	0.004376	0.48	0.27	2.09	0.42
Reach 1-Upper	174	5YrSCS24Hr	0.21	91.52	91.78	91.70	91.80	0.004673	0.56	0.37	2.34	0.45
Reach 1-Upper	174	10YrSCS24Hr	0.27	91.52	91.81	91.72	91.83	0.004791	0.61	0.44	2.47	0.46
Reach 1-Upper	174	25YrSCS24Hr	0.34	91.52	91.84	91.75	91.86	0.004993	0.67	0.51	2.62	0.48

HEC-RAS Plan: 20250910-Post_Dev_v02 River: River 1 Reach: Reach 1-Upper (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
Reach 1-Upper	174	50YrSCS24Hr	0.40	91.52	91.86	91.77	91.89	0.005106	0.70	0.57	2.72	0.49
Reach 1-Upper	174	100YrSCS24Hr	0.47	91.52	91.88	91.78	91.91	0.005150	0.73	0.63	2.83	0.50
Reach 1-Upper	154	2YrCHI3Hr	0.09	91.43	91.62	91.56	91.63	0.004316	0.40	0.22	2.21	0.40
Reach 1-Upper	154	5YrCHI3Hr	0.15	91.43	91.66	91.59	91.67	0.004196	0.46	0.33	2.61	0.41
Reach 1-Upper	154	10YrCHI3Hr	0.20	91.43	91.69	91.61	91.70	0.004192	0.49	0.40	2.83	0.42
Reach 1-Upper	154	25YrCHI3Hr	0.26	91.43	91.72	91.63	91.74	0.004098	0.53	0.49	3.08	0.42
Reach 1-Upper	154	50YrCHI3Hr	0.31	91.43	91.74	91.65	91.76	0.004007	0.55	0.56	3.25	0.43
Reach 1-Upper	154	100YrCHI3Hr	0.37	91.43	91.77	91.67	91.78	0.003907	0.58	0.64	3.40	0.43
Reach 1-Upper	154	2YrSCS24Hr	0.13	91.43	91.65	91.58	91.66	0.004250	0.44	0.29	2.50	0.41
Reach 1-Upper	154	5YrSCS24Hr	0.21	91.43	91.70	91.62	91.71	0.004172	0.50	0.42	2.89	0.42
Reach 1-Upper	154	10YrSCS24Hr	0.27	91.43	91.72	91.64	91.74	0.004085	0.53	0.50	3.11	0.42
Reach 1-Upper	154	25YrSCS24Hr	0.34	91.43	91.76	91.66	91.77	0.003951	0.57	0.60	3.33	0.43
Reach 1-Upper	154	50YrSCS24Hr	0.40	91.43	91.78	91.67	91.80	0.003859	0.59	0.68	3.48	0.43
Reach 1-Upper	154	100YrSCS24Hr	0.47	91.43	91.80	91.69	91.82	0.003775	0.61	0.76	3.63	0.43
Reach 1-Upper	137	2YrCHI3Hr	0.09	91.33	91.49	91.46	91.51	0.011391	0.63	0.14	1.43	0.65
Reach 1-Upper	137	5YrCHI3Hr	0.15	91.33	91.53	91.50	91.56	0.011329	0.73	0.20	1.66	0.67
Reach 1-Upper	137	10YrCHI3Hr	0.20	91.33	91.56	91.52	91.59	0.011021	0.78	0.25	1.80	0.67
Reach 1-Upper	137	25YrCHI3Hr	0.26	91.33	91.59	91.55	91.63	0.010598	0.84	0.31	1.97	0.67
Reach 1-Upper	137	50YrCHI3Hr	0.31	91.33	91.62	91.57	91.65	0.010270	0.87	0.36	2.09	0.67
Reach 1-Upper	137	100YrCHI3Hr	0.37	91.33	91.64	91.58	91.68	0.009883	0.90	0.41	2.22	0.67
Reach 1-Upper	137	2YrSCS24Hr	0.13	91.33	91.52	91.49	91.55	0.011458	0.71	0.18	1.59	0.67
Reach 1-Upper	137	5YrSCS24Hr	0.21	91.33	91.57	91.53	91.60	0.010925	0.80	0.26	1.84	0.67
Reach 1-Upper	137	10YrSCS24Hr	0.27	91.33	91.60	91.55	91.63	0.010544	0.84	0.32	1.99	0.67
Reach 1-Upper	137	25YrSCS24Hr	0.34	91.33	91.63	91.58	91.67	0.010099	0.89	0.39	2.16	0.67
Reach 1-Upper	137	50YrSCS24Hr	0.40	91.33	91.65	91.60	91.69	0.009709	0.91	0.44	2.29	0.66
Reach 1-Upper	137	100YrSCS24Hr	0.47	91.33	91.68	91.61	91.72	0.009370	0.93	0.50	2.42	0.66
Reach 1-Upper	116	2YrCHI3Hr	0.09	91.23	91.38	91.32	91.39	0.003211	0.37	0.23	2.08	0.35
Reach 1-Upper	116	5YrCHI3Hr	0.15	91.23	91.44	91.35	91.44	0.002924	0.42	0.35	2.37	0.35
Reach 1-Upper	116	10YrCHI3Hr	0.20	91.23	91.47	91.37	91.48	0.002866	0.46	0.43	2.54	0.36
Reach 1-Upper	116	25YrCHI3Hr	0.26	91.23	91.50	91.39	91.52	0.002818	0.49	0.53	2.75	0.36
Reach 1-Upper	116	50YrCHI3Hr	0.31	91.23	91.53	91.41	91.54	0.002810	0.52	0.60	2.89	0.36
Reach 1-Upper	116	100YrCHI3Hr	0.37	91.23	91.56	91.42	91.57	0.002804	0.54	0.68	3.03	0.37
Reach 1-Upper	116	2YrSCS24Hr	0.13	91.23	91.42	91.34	91.43	0.002958	0.41	0.32	2.29	0.35
Reach 1-Upper	116	5YrSCS24Hr	0.21	91.23	91.48	91.37	91.49	0.002849	0.47	0.45	2.59	0.36
Reach 1-Upper	116	10YrSCS24Hr	0.27	91.23	91.51	91.39	91.52	0.002820	0.50	0.54	2.77	0.36
Reach 1-Upper	116	25YrSCS24Hr	0.34	91.23	91.54	91.41	91.56	0.002805	0.53	0.64	2.96	0.37
Reach 1-Upper	116	50YrSCS24Hr	0.40	91.23	91.57	91.43	91.59	0.002678	0.55	0.73	3.11	0.36
Reach 1-Upper	116	100YrSCS24Hr	0.47	91.23	91.60	91.45	91.62	0.002583	0.57	0.82	3.24	0.36
Reach 1-Upper	95	2YrCHI3Hr	0.09	91.07	91.29	91.23	91.30	0.006154	0.52	0.16	1.38	0.48
Reach 1-Upper	95	5YrCHI3Hr	0.15	91.07	91.33	91.27	91.35	0.006882	0.63	0.24	1.61	0.53
Reach 1-Upper	95	10YrCHI3Hr	0.20	91.07	91.36	91.30	91.39	0.007544	0.71	0.28	1.73	0.56
Reach 1-Upper	95	25YrCHI3Hr	0.26	91.07	91.39	91.33	91.42	0.007915	0.77	0.34	1.88	0.58
Reach 1-Upper	95	50YrCHI3Hr	0.31	91.07	91.41	91.35	91.45	0.008499	0.83	0.37	1.97	0.61
Reach 1-Upper	95	100YrCHI3Hr	0.37	91.07	91.43	91.37	91.47	0.009495	0.90	0.41	2.07	0.65
Reach 1-Upper	95	2YrSCS24Hr	0.13	91.07	91.32	91.26	91.34	0.006702	0.60	0.21	1.55	0.52
Reach 1-Upper	95	5YrSCS24Hr	0.21	91.07	91.37	91.30	91.39	0.007595	0.72	0.29	1.76	0.57
Reach 1-Upper	95	10YrSCS24Hr	0.27	91.07	91.39	91.33	91.43	0.008212	0.79	0.34	1.88	0.60
Reach 1-Upper	95	25YrSCS24Hr	0.34	91.07	91.42	91.36	91.46	0.008586	0.86	0.40	2.03	0.62
Reach 1-Upper	95	50YrSCS24Hr	0.40	91.07	91.39	91.38	91.46	0.019163	1.20	0.33	1.87	0.91
Reach 1-Upper	95	100YrSCS24Hr	0.47	91.07	91.40	91.40	91.49	0.023191	1.34	0.35	1.90	1.00
Reach 1-Upper	72	2YrCHI3Hr	0.09	90.91	91.00	91.00	91.03	0.030446	0.75	0.12	1.98	0.99
Reach 1-Upper	72	5YrCHI3Hr	0.15	90.91	91.03	91.03	91.07	0.029306	0.85	0.18	2.40	1.01
Reach 1-Upper	72	10YrCHI3Hr	0.20	90.91	91.05	91.05	91.09	0.027108	0.89	0.22	2.63	0.99
Reach 1-Upper	72	25YrCHI3Hr	0.26	90.91	91.06	91.06	91.11	0.027545	0.98	0.27	2.80	1.02
Reach 1-Upper	72	50YrCHI3Hr	0.31	90.91	91.08	91.08	91.13	0.025861	1.01	0.31	2.94	1.00
Reach 1-Upper	72	100YrCHI3Hr	0.37	90.91	91.10	91.09	91.15	0.022250	1.01	0.36	3.09	0.95
Reach 1-Upper	72	2YrSCS24Hr	0.13	90.91	91.02	91.02	91.06	0.029339	0.82	0.16	2.29	1.00
Reach 1-Upper	72	5YrSCS24Hr	0.21	90.91	91.05	91.05	91.09	0.027610	0.92	0.23	2.67	1.00
Reach 1-Upper	72	10YrSCS24Hr	0.27	90.91	91.07	91.07	91.12	0.025875	0.97	0.28	2.84	0.99
Reach 1-Upper	72	25YrSCS24Hr	0.34	90.91	91.09	91.09	91.14	0.025973	1.05	0.33	2.99	1.01
Reach 1-Upper	72	50YrSCS24Hr	0.40	90.91	91.15	91.10	91.18	0.008061	0.73	0.55	3.56	0.59
Reach 1-Upper	72	100YrSCS24Hr	0.47	90.91	91.22	91.11	91.24	0.003417	0.57	0.82	4.07	0.40

APPENDIX H
CITY OF OTTAWA DESIGN CHECKLIST

City of Ottawa

4. Development Servicing Study Checklist

The following section describes the checklist of the required content of servicing studies. It is expected that the proponent will address each one of the following items for the study to be deemed complete and ready for review by City of Ottawa Infrastructure Approvals staff.

The level of required detail in the Servicing Study will increase depending on the type of application. For example, for Official Plan amendments and re-zoning applications, the main issues will be to determine the capacity requirements for the proposed change in land use and confirm this against the existing capacity constraint, and to define the solutions, phasing of works and the financing of works to address the capacity constraint. For subdivisions and site plans, the above will be required with additional detailed information supporting the servicing within the development boundary.

4.1 General Content

Criteria	Location (if applicable)
☐ Executive Summary (for larger reports only).	N/A
☐ Date and revision number of the report.	On Cover
☐ Location map and plan showing municipal address, boundary, and layout of proposed development.	Appendix A
☐ Plan showing the site and location of all existing services.	Site Servicing Plan (C102)
☐ Development statistics, land use, density, adherence to zoning and official plan, and reference to applicable subwatershed and watershed plans that provide context to which individual developments must adhere.	1.1 Purpose 1.2 Site Description 6.0 Proposed Stormwater Management
☐ Summary of pre-consultation meetings with City and other approval agencies.	Appendix B
☐ Reference and confirm conformance to higher level studies and reports (Master Servicing Studies, Environmental Assessments, Community Design Plans), or in the case where it is not in conformance, the proponent must provide justification and develop a defendable design criteria.	1.1 Purpose 1.2 Site Description 6.0 Proposed Stormwater Management
☐ Statement of objectives and servicing criteria.	3.0 Pre-Consultation Summary

☐ Identification of existing and proposed infrastructure available in the immediate area.	N/A
☐ Identification of Environmentally Significant Areas, watercourses and Municipal Drains potentially impacted by the proposed development (Reference can be made to the Natural Heritage Studies, if available).	Site Grading Plan (C101)
☐ Concept level master grading plan to confirm existing and proposed grades in the development. This is required to confirm the feasibility of proposed stormwater management and drainage, soil removal and fill constraints, and potential impacts to neighbouring properties. This is also required to confirm that the proposed grading will not impede existing major system flow paths.	Site Grading Plan (C101)
☐ Identification of potential impacts of proposed piped services on private services (such as wells and septic fields on adjacent lands) and mitigation required to address potential impacts.	N/A
☐ Proposed phasing of the development, if applicable.	N/A
☐ Reference to geotechnical studies and recommendations concerning servicing.	Section 2.0 Background Studies, Standards and References
☐ All preliminary and formal site plan submissions should have the following information: o Metric scale o North arrow (including construction North) o Key plan o Name and contact information of applicant and property owner o Property limits including bearings and dimensions o Existing and proposed structures and parking areas o Easements, road widening and rights-of-way o Adjacent street names	Site Grading Plan (C101)

4.2 Development Servicing Report: Water

Criteria	Location (if applicable)
☐ Confirm consistency with Master Servicing Study, if available	N/A
☐ Availability of public infrastructure to service proposed development	N/A
☐ Identification of system constraints	N/A
☐ Identify boundary conditions	Appendix C
☐ Confirmation of adequate domestic supply and pressure	N/A
☐ Confirmation of adequate fire flow protection and confirmation that fire flow is calculated as per the Fire Underwriter's Survey. Output should show available fire flow at locations throughout the development.	Appendix C
☐ Provide a check of high pressures. If pressure is found to be high, an assessment is required to confirm the application of pressure reducing valves.	N/A
☐ Definition of phasing constraints. Hydraulic modeling is required to confirm servicing for all defined phases of the project including the ultimate design	N/A
☐ Address reliability requirements such as appropriate location of shut-off valves	N/A
☐ Check on the necessity of a pressure zone boundary modification.	N/A
☐ Reference to water supply analysis to show that major infrastructure is capable of delivering sufficient water for the proposed land use. This includes data that shows that the expected demands under average day, peak hour and fire flow conditions provide water within the required pressure range	Appendix C, Section 4.2 Proposed Water Servicing

☐ Description of the proposed water distribution network, including locations of proposed connections to the existing system, provisions for necessary looping, and appurtenances (valves, pressure reducing valves, valve chambers, and fire hydrants) including special metering provisions.	Site Servicing Plan (C101)
☐ Description of off-site required feedermains, booster pumping stations, and other water infrastructure that will be ultimately required to service proposed development, including financing, interim facilities, and timing of implementation.	N/A
☐ Confirmation that water demands are calculated based on the City of Ottawa Design Guidelines.	Appendix C
☐ Provision of a model schematic showing the boundary conditions locations, streets, parcels, and building locations for reference.	N/A

4.3 Development Servicing Report: Wastewater

Criteria	Location (if applicable)
☐ Summary of proposed design criteria (Note: Wet-weather flow criteria should not deviate from the City of Ottawa Sewer Design Guidelines. Monitored flow data from relatively new infrastructure cannot be used to justify capacity requirements for proposed infrastructure).	N/A
☐ Confirm consistency with Master Servicing Study and/or justifications for deviations.	N/A
☐ Consideration of local conditions that may contribute to extraneous flows that are higher than the recommended flows in the guidelines. This includes groundwater and soil conditions, and age and condition of sewers.	N/A
☐ Description of existing sanitary sewer available for discharge of wastewater from proposed development.	Section 5.2 Proposed Sanitary Servicing

☐ Verify available capacity in downstream sanitary sewer and/or identification of upgrades necessary to service the proposed development. (Reference can be made to previously completed Master Servicing Study if applicable)	Section 5.2 Proposed Sanitary Servicing
☐ Calculations related to dry-weather and wet-weather flow rates from the development in standard MOE sanitary sewer design table (Appendix 'C') format.	N/A
☐ Description of proposed sewer network including sewers, pumping stations, and forcemains.	Section 5.2 Proposed Sanitary Servicing
☐ Discussion of previously identified environmental constraints and impact on servicing (environmental constraints are related to limitations imposed on the development in order to preserve the physical condition of watercourses, vegetation, soil cover, as well as protecting against water quantity and quality).	N/A
☐ Pumping stations: impacts of proposed development on existing pumping stations or requirements for new pumping station to service development.	N/A
☐ Forcemain capacity in terms of operational redundancy, surge pressure and maximum flow velocity.	N/A
☐ Identification and implementation of the emergency overflow from sanitary pumping stations in relation to the hydraulic grade line to protect against basement flooding.	N/A
☐ Special considerations such as contamination, corrosive environment etc.	N/A

4.4 Development Servicing Report: Stormwater Checklist

Criteria	Location (if applicable)
☐ Description of drainage outlets and downstream constraints including legality of outlets (i.e. municipal drain, right-of-way, watercourse, or private property)	Section 6.0 Storm Sewer Servicing & Section 7.0 Proposed Stormwater Management
☐ Analysis of available capacity in existing public infrastructure.	N/A
☐ A drawing showing the subject lands, its surroundings, the receiving watercourse, existing drainage patterns, and proposed drainage pattern.	Pre & Post-Development Plans
☐ Water quantity control objective (e.g. controlling post-development peak flows to pre-development level for storm events ranging from the 2 or 5-year event (dependent on the receiving sewer design) to 100-year return period); if other objectives are being applied, a rationale must be included with reference to hydrologic analyses of the potentially affected subwatersheds, taking into account long-term cumulative effects.	Section 6.0 Storm Sewer Servicing & Section 7.0 Proposed Stormwater Management
☐ Water Quality control objective (basic, normal or enhanced level of protection based on the sensitivities of the receiving watercourse) and storage requirements.	Section 6.0 Storm Sewer Servicing & Section 7.0 Proposed Stormwater Management
☐ Description of the stormwater management concept with facility locations and descriptions with references and supporting information.	Section 6.0 Storm Sewer Servicing & Section 7.0 Proposed Stormwater Management
☐ Set-back from private sewage disposal systems.	N/A
☐ Watercourse and hazard lands setbacks.	N/A
☐ Record of pre-consultation with the Ontario Ministry of Environment and the Conservation Authority that has jurisdiction on the affected watershed.	N/A
☐ Confirm consistency with sub-watershed and Master Servicing Study, if applicable study exists.	N/A
☐ Storage requirements (complete with calculations) and conveyance capacity for minor events (1:5-year return period) and major events (1:100-year return period).	Appendix G

☐ Identification of watercourses within the proposed development and how watercourses will be protected, or, if necessary, altered by the proposed development with applicable approvals.	Site Grading Plan (C101)
☐ Calculate pre-and post development peak flow rates including a description of existing site conditions and proposed impervious areas and drainage catchments in comparison to existing conditions.	Appendix G, Section 7.0 Proposed Stormwater Management
☐ Any proposed diversion of drainage catchment areas from one outlet to another.	Section 6.0 Storm Sewer Servicing & Section 7.0 Proposed Stormwater Management
☐ Proposed minor and major systems including locations and sizes of stormwater trunk sewers, and stormwater management facilities.	Section 6.0 Storm Sewer Servicing & Section 7.0 Proposed Stormwater Management
☐ If quantity control is not proposed, demonstration that downstream system has adequate capacity for the post-development flows up to and including the 100-year return period storm event.	N/A
☐ Identification of potential impacts to receiving watercourses	N/A
☐ Identification of municipal drains and related approval requirements.	N/A
☐ Descriptions of how the conveyance and storage capacity will be achieved for the development.	Section 6.0 Storm Sewer Servicing & Section 7.0 Proposed Stormwater Management
☐ 100-year flood levels and major flow routing to protect proposed development from flooding for establishing minimum building elevations (MBE) and overall grading.	Site Grading Plan (C101)
☐ Inclusion of hydraulic analysis including hydraulic grade line elevations.	N/A

☐ Description of approach to erosion and sediment control during construction for the protection of receiving watercourse or drainage corridors.	Section 8.0 Sediment & Erosion Control
☐ Identification of floodplains – proponent to obtain relevant floodplain information from the appropriate Conservation Authority. The proponent may be required to delineate floodplain elevations to the satisfaction of the Conservation Authority if such information is not available or if information does not match current conditions.	N/A
☐ Identification of fill constraints related to floodplain and geotechnical investigation.	N/A

4.5 Approval and Permit Requirements: Checklist

The Servicing Study shall provide a list of applicable permits and regulatory approvals necessary for the proposed development as well as the relevant issues affecting each approval. The approval and permitting shall include but not be limited to the following:

Criteria	Location (if applicable)
☐ Conservation Authority as the designated approval agency for modification of floodplain, potential impact on fish habitat, proposed works in or adjacent to a watercourse, cut/fill permits and Approval under Lakes and Rivers Improvement Act. The Conservation Authority is not the approval authority for the Lakes and Rivers Improvement Act. Where there are Conservation Authority regulations in place, approval under the Lakes and Rivers Improvement Act is not required, except in cases of dams as defined in the Act.	N/A
☐ Application for Certificate of Approval (CofA) under the Ontario Water Resources Act.	N/A
☐ Changes to Municipal Drains.	N/A
☐ Other permits (National Capital Commission, Parks Canada, Public Works and Government Services Canada, Ministry of Transportation etc.)	N/A

4.6 Conclusion Checklist

Criteria	Location (if applicable)
☐ Clearly stated conclusions and recommendations	Section 9.0 Summary Section 10.0 Recommendations
☐ Comments received from review agencies including the City of Ottawa and information on how the comments were addressed. Final sign-off from the responsible reviewing agency.	All are stamped
☐ All draft and final reports shall be signed and stamped by a professional Engineer registered in Ontario	All are stamped