

# 6160 THUNDER ROAD & 5368 BOUNDARY ROAD: STORMWATER MANAGEMENT REPORT

NOVEMBER 2024



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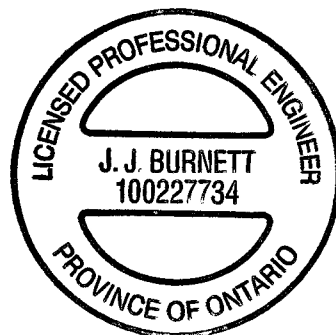
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In the City of Ottawa, Ontario

**NOVEMBER 2024**

Prepared for:  
Thunder Road Limited Partnership



Prepared by:



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## Rationale for Update

This report is an update of the August 2024 "6150 Thunder Road: Stormwater Management Report" by JFSA Canada Inc. The report was updated to address review comments received from South Nation Conservation on September 15, 2024, as well as review comments from the City of Ottawa received on November 1, 2024. As a part of these updates, the grading and storm sewer network for the east SWM pond located along Boundary Road has been raised to ensure that the SWM pond outlet is above the invert of the receiving roadside ditch, to prevent any issues with regards to the pond's operations due to backwater on the ditch. At the request of the City, additional tables and figures have been provided and minor refinements to the report text for clarity.

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- Appendix A – Pre-Development Conditions
- Appendix B – Post-Development Conditions
- Appendix C - Erosion Analysis
- Appendix D – Oil and Grit Separator
- Appendix E – HEC-RAS Model

## 1 Introduction

JFSA Canada Inc (JFSA) was commissioned by Thunder Road Limited Partnership to complete the stormwater management analysis for the proposed industrial development located at 6160 Thunder Road and 5368 Boundary Road. The total site is **15.16 ha**, however, approximately **3.93 ha** of the development site will either remain unchanged and drain uncontrolled or fall within the O1R zone. Therefore, the drainage area for the development site, for the purposes of this study, is approximately **11.23 ha**. This area will consist primarily of parking spaces, accompanied by an office and a supplementary building. Currently, the site is undeveloped and covered in vegetation, with several small drainage channels that ultimately flow into the Bear Brook tributary; under the proposed conditions, the site will still discharge into the Bear Brook tributary. However, the development will implement various stormwater management (SWM) solutions to ensure that there are no increases in peak flows compared to the existing conditions and that there will be no negative impacts on the existing watercourse with regard to flooding and erosion. **Figure 1** below provides an approximate outline of the proposed development's extent and location. This document will outline and evaluate the different stormwater management solutions proposed for this site.

**Figure 1: Development Overview**



## 1.1 Background Data / Information

The following section outlines the background data and information used to support and supplement this study:

### 1.1.1 Topographic Survey

A detailed topographic survey of the site was completed by Annis, O'Sullivan Vollebakk LTD (AOV) in March 2021. This topographic information has been merged with the City of Ottawa LiDAR to determine the pre-development conditions of the site.

### 1.1.2 LiDAR

LiDAR data was acquired from the City of Ottawa to supplement locations where there is insufficient topographic detail included in the survey by AOV. This LiDAR was merged with AOV's survey to provide a complete picture of the topography throughout the development area.

### 1.1.3 Existing Reports

The following background documents were reviewed in preparing this report:

- Bear Brook and Tributaries Flood Hazard Mapping Report, SNC, March 2022
- 6150 Thunder Road: Floodplain Mapping, JFSA, July 2021
- 5368 Boundary Road and 6150 Thunder Road Functional Serviceability Report, LRL, December 2020
- Environmental Impact Statement, 6150 Thunder Road, Ottawa, Kilgore & Associates LTD, December 2020
- The City of Ottawa Technical Bulletin ISTB-2018-04, City of Ottawa, June 2018.
- The City of Ottawa Technical Bulletin PIEDTB-2016-01, City of Ottawa, September 2016.
- Technical Bulletin ISDTB-2014-01, Revisions to Ottawa Design Guidelines – Sewer, City of Ottawa, February 2014.
- City of Ottawa Sewer Design Guidelines, City of Ottawa, October 2012.
- Erosion and Sediment Control Guidelines for Urban Construction, Conservation Halton et al., December 2006.
- Stormwater Management Planning and Design Manual, Ministry of the Environment, March 2003.

## 2 Existing Conditions

Given that the site under existing conditions is a large natural undeveloped area, it was determined that the SWMHYMO modelling software would be the most suitable hydrologic modelling program to use to determine the pre-development flows. The following outlines the derivation of key model parameters used to represent these existing lands, and in turn, determine the post-development target release rates.

### 2.1.1 Drainage Areas

As identified above, LiDAR data was merged with the detailed topographic survey of the site completed by AOV to derive a single Digital Terrain Model (DTM). This data was imported into GIS software where watershed delineation algorithms were applied. **Figure A1 in Appendix A** provides a visual overview of the existing drainage areas within the study area. Note that the majority of the site drains directly to the Bear Brook tributary, with a small portion of the site in the southeast corner draining to a roadside ditch along Boundary Road before discharging to the Bear Brook tributary.

### 2.1.2 Land Use

Land use data has been taken from Land Information Ontario's (LIO) Southern Ontario Land Resource Information System (SOLRIS) data package, which is a primary data layer that provides a comprehensive, standardized, landscape-level inventory of natural, rural and urban lands throughout southern Ontario. This data was discretized based on the respective subcatchments. **Figure A2 in Appendix A** provides a visual overview of the respective land use data for each of the subcatchments within the study area. Under existing conditions, the site primarily consists of plantation and treed swamplands.

### 2.1.3 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 Appendix A** provides a visual overview of the respective soil type data for each of the subcatchments within the study area. Under existing conditions, the site primarily consists of Allendale and Cheney Soils both of which are Loamy Fine Sand soils (Hydrologic Soil Type C).

### 2.1.4 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. **Table A1 in Appendix A** provides a full summary of the CN calculations for each of the pre-development subcatchments.

### 2.1.5 Time to Peak ( $t_p$ )

The time-to-peak value 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 identified; refer to **Figure A4 in Appendix A** 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. Full details of these calculations have been provided in **Table A2 in Appendix A**, along with other time-to-peak values using alternative  $t_p$  calculation methods.



## 2.2 Results

**Table 1** below outlines the peak flow at key locations within the study area based on the SWMHYMO simulations. Note that both the 3-Hour Chicago and 24-Hour SCS design storms were assessed in this study. The peak flows determined by this model have been used to set the maximum allowable post-development release rates. Full input and summary files of the proposed SWMHYMO models have been provided in **Appendix A**.

**Table 1: Pre-Development Peak Flows**

| Event                 | Peak Flow (m <sup>3</sup> /s) |                                 |
|-----------------------|-------------------------------|---------------------------------|
|                       | Bear Brook Trib (10.62 ha)    | Boundary Road – Ditch (0.61 ha) |
| 25mm CHI 4Hr          | 0.020                         | 0.001                           |
| 2-Year CHI 3Hr        | 0.038                         | 0.003                           |
| 5-Year CHI 3Hr        | 0.070                         | 0.005                           |
| 100-Year CHI 3Hr      | 0.194                         | 0.015                           |
| 100-Year SCS 24 Hr    | 0.265                         | 0.021                           |
| 100-Year CHI 3Hr +20% | 0.271                         | 0.021                           |

## 3 Proposed Conditions

### 3.1 Model Overview

#### 3.1.1 Drainage Areas / Imperviousness

Under the proposed conditions, the drainage areas have been delineated by LRL based on the site's proposed grading. The impervious values for each of these areas are based on the runoff coefficients determined by LRL and converted to impervious values using the following formula.

$$\% \text{ Impervious} = \left( \frac{C - 0.2}{0.7} \right) \times 100$$

For these lands, the following Horton's Infiltration parameters have been assumed:  $F_0=76.2$  mm/hr,  $F_c=13.2$  mm/hr,  $DCA Y=4.14$  /hr,  $F=0$  mm, and initial abstraction values of 1.57mm and 4.67 mm for impervious and pervious surfaces, all as per the City of Ottawa design guidelines. An overview of the proposed development drainage areas and imperviousness has been provided in **Figure B1 of Appendix B**.

#### 3.1.2 Storm Sewer Network

The storm sewer network was designed by LRL based on rational method calculations and general site grading constraints (see **Appendix B** for full rational method calculations). The storm sewer network plan has been incorporated into the model based on this design, with exit losses applied to the model to account for losses that occur at bends in the system.

Maintenance Hole Catch Basins (MHCBs) have been implemented throughout the majority of the site to allow for easy maintenance. Further to this, no ICDs have been proposed for this site, and the constriction that the CBMH grate provides has been the only consideration for attenuating and

retaining flows within the major system. The CB grates have been represented in the model as rectangular bottom orifices with a total opening area reflective of the proposed CB grate opening. A comparison of the depth-to-flow relationship per the City of Ottawa Storm Design Guidelines (empirically derived) and the model simulated depth flow relationship (based on the orifice equation) has been provided in **Attachment B**, which shows a coefficient of determination ( $r^2$ ) of **0.963**.

The majority of the site will capture flows via Maintenance Hole Catch Basin (MHCB) which will then convey flows to Dry SWM ponds located in the northwest (Pond 1) and southeast (Pond 2) extents of the site. The northwest SWM pond is connected to an additional storage area upstream via **2 x 600 mm CSPs** and will outlet to the Bear Brook tributary via a naturalized drainage swale. The southeastern extent of the development will have an independent stormer sewer network, that will outlet to the roadside ditch along Boundary Road. The full storm sewer network has been outlined in **Figure B2 of Appendix B**.

### 3.1.3 Road Storage & ICDs

The site grading has been optimized to make full use of any potential major system ponding locations throughout the site. This storage has been represented in the model through the use of storage nodes, which are depth/area curves based on LRL's detailed grading of the site. In the event of a blockage, there is enough storage within each of these low points to contain the full runoff volume for the 100-year event. Thus, Depth x Velocity summary tables have not been provided for this analysis. In an event greater than the 100-year event +20% and a coinciding blockage, flows will cascade from low point to low point until reaching the SWM Pond in the west and north of the site.

### 3.1.4 Stormwater Management Facilities

Two dry Stormwater Management (SWM) ponds are proposed for the site. They are numbered 1 and 2, with Pond 1 located in the northwest corner and Pond 2 in the southeast. For their exact locations and the full storm sewer network, refer to **Figure B2 in Appendix B**.

The majority of the site will gravity drain to a proposed ditch/swale along the southern extent of the property. Flows will be attenuated in the ditch before discharging to SWM Pond 1 in the western extent of the site. A storm sewer network will also be implemented in the north to capture runoff from roads along the northern edge of the property. These flows will be conveyed to SWM Pond 2 in the southeast of the site before discharging to the roadside ditch along Boundary Road. The majority of the subdivision ultimately outlets to the Bear Brook tributary through SWM Pond 1.

The SWM pond 1 outlet will consist of 2 components, a **130 mm** circular orifice at the invert elevation of the pond (**75.80 m**), the top of the pond outlet structure will be open at the top at an elevation of **77.00m** and will be equipped with a steel grate, and a **5 m** wide overflow weir will be provided at **77.1m** as an emergency overflow in the event of a blockage in the pond outlet structure or downstream pipe network.

For all summer events a fixed downstream boundary elevation of **75.87m** has been applied to the model which is reflective of the 100-year summer water level in the Bear Brook Tributary at the SWM pond outlet location. Note that the 100-year summer water level is 7cm higher than the pond bottom, but due to differences in the timing of peaks between the development and the larger watershed the fixed downstream elevation has not been considered to be able to backflow into the pond at the start of the simulation. See Section 3.1.6 for additional details regarding the downstream boundary conditions.

Pond 2 is located in the southeast corner of the development servicing a smaller portion of the development and will discharge to the existing roadside ditch along Boundary Road, before discharging to the Bear Brook tributary. Given the small release rates for this location, a conventional orifice outlet configuration is not a feasible option as the orifice opening sizes would be so small that it would be at risk of blockage. Alternatively, a hydrovex flow control device is proposed to be implemented at this location to limit the flows to the required rate while avoiding the risk of blockage. For this analysis, a **Veolia 75 VHV-1 hydrovex** unit has been assumed. A **70 m** wide overflow weir has been set at **77.45 m**, along the eastern edge of the pond, and will act as an emergency overflow weir during a blockage or extreme event.

### 3.1.5 Oil and Grit Separator (OGS) Units

Throughout this site, Oil and grit separator (OGS) units will be implemented to provide water treatment and in conjunction with the Dry SWM ponds will provide enhanced (80%) water quality treatment for the site. OGS units will be implemented downstream of Pond 1 before discharging to the Bear Brook Tributary, and downstream of Pond 2 before it discharges to the roadside ditch on Boundary Road. For Pond 1 an **EF06 Stormceptor** is proposed and an **EF04 Stormceptor** for SWM Pond 2. Full details of these OGS units have been provided in **Appendix D**.

### 3.1.6 Downstream Boundary Conditions

As requested by South Nation Conservation (SNC) the Bear Brook HEC-RAS model of record has been extended upstream to the proposed SWM pond outlet. An additional cross-section was added to the model at the location of the proposed SWM pond outlet based on the City of Ottawa LiDAR and a detailed survey completed by AOV. Other HEC-RAS model parameters (e.g. manning's, expansion-contraction coefficients) for this cross-section were updated to align with exiting downstream cross-sections and other associated model parameters (channel and overbank lengths) were updated accordingly. The model was re-run again using both summer and spring flows as outlined in SNC's HEC-HMS model of the Bear Brook, and the respective water levels obtained. The following table outlines the various water levels derived from the model.

**Table 2: Bear Brook Tributary Water Levels**

| Design Storm          | Flow<br>(m <sup>3</sup> /s) | Water Surface Elevation<br>(m) |
|-----------------------|-----------------------------|--------------------------------|
| 2-Year Summer         | 0.05                        | 75.72                          |
| 25-Year Summer        | 0.13                        | 75.82                          |
| 100-Year Summer Event | 0.20                        | 75.87                          |
| 100-Year Snow Melt    | 0.60                        | 76.07                          |

Based on this analysis the water level at the outlet of the SWM pond will reach **75.87m** during the 100-year summer event. Similarly, during the 100-year spring event, the water level is projected to be **76.07m**. The bottom of the SWM pond at this location will be set at **75.8m**, which means that during the 100-year event, the downstream water level will be **7cm** and **27cm** above the bottom of the pond during the summer and spring events respectively. The bottom of the SWM pond will be above the 2-year summer water level, and only **2 cm** lower than the 25-year summer event. As mentioned above all summer design storms assume a 100-year summer water level on the Bear Brook Trib, and the spring snowmelt analysis assumes a 100-year spring water level on

the Bear Brook Trib. A copy of the HEC-RAS model has been provided electronically. Refer to **Appendix E** for the location and extends of the HEC-RAS model updates along with model cross sections and results.

### 3.1.7 Snow Melt Event

As requested by SNC the site has also been assessed under a 100-year 10-day rainfall plus snowmelt event, to ensure that the stormwater management infrastructure is sufficiently sized to convey such an event. In this modelling scenario, the infiltration method was changed to CN, and all areas had a value of 95 applied to reflect frozen/saturated soils (in line with the Bear Brook floodplain mapping study). The complete findings of this analysis are presented in the Results section of this report. It's crucial to highlight that the assumption is made that the soils are either frozen or saturated. Consequently, the peak flows and total runoff volumes from the development under post-development conditions align closely with those under pre-development conditions. This means that the impacts on the receiving watercourse remain unchanged, if not reduced, due to the incorporation of the Stormwater Management (SWM) facilities. Thus this analysis intends to ensure that the site can continue to function as planned without any flooding issues under such a scenario.

### 3.1.8 Erosion Analysis

SNC has also requested the completion of a geomorphological and erosion assessment on the downstream watercourse. The purpose of this study is to quantify and understand any potential impacts that the development might have on the waterway.

In collaboration with Geomorphix Ltd (GMX), JFSA completed an erosion exceedance analysis. As part of this work, JFSA created a hydrologic model of the existing watershed up to its confluence with the main branch of Bear Brook, located approximately 1.4 km downstream of the proposed development. This model was run using 39 years of historical rainfall data (from 1967 to 2007, excluding 2001 & 2005).

The hydrologic model was then updated to simulate post-development conditions by closely aligning the total inflows and storage/outflows with the detailed PCSWMM model (refer to Appendix C for complete comparisons and details). The model was rerun over the same period, and hydrographs were extracted from a location in the model that best represented BBT-7, identified as the most erosion-sensitive location based on GMX's rapid stream assessment.

GMX compared the changes in pre and post-development hydrographs and derived various erosion indices. The analysis results indicate that the proposed stormwater management strategy for the development effectively mitigates potential downstream erosion impacts on the receiving watercourse. Comprehensive details of the hydrologic modelling conducted as part of this work can be found in Appendix C. The full details of the geomorphological assessment are available in GMX's August 2024 report titled "Geomorphological and Erosion Assessment, Tributary of Bear Brook - 6160 Thunder Road and 5368 Boundary Road".

## 3.2 Results

The following section outlines the various results of the proposed development

### 3.2.1 Post-Development Release Rates

Furthermore, for the 25mm rainfall event, the peak flows are also equal to or less than the pre-development levels, indicating that the proposed development will not worsen any existing erosion issues. It's important to note that, due to the identified erosion concerns downstream, the site's SWM release rates are designed to mitigate erosion exceedances rather than simply match pre-development peak flows. As a result, the post-development peak flows from the site are significantly lower than the pre-development flows for most of the design storms evaluated.

Table 3 presents the peak inflows and outflows for SWM Pond 1 and SWM Pond 2, alongside the pre-development targets from **Table 1**. The data shows that the peak flows to both the Bear Brook Tributary and the Boundary Road Roadside Ditch are equal to or lower than the pre-development conditions specified in **Table 1**. Therefore, the proposed development is expected to have no adverse effects on the existing floodplain.

Furthermore, for the 25mm rainfall event, the peak flows are also equal to or less than the pre-development levels, indicating that the proposed development will not worsen any existing erosion issues. It's important to note that, due to the identified erosion concerns downstream, the site's SWM release rates are designed to mitigate erosion exceedances rather than simply match pre-development peak flows. As a result, the post-development peak flows from the site are significantly lower than the pre-development flows for most of the design storms evaluated.

**Table 3: Post-Development Peak Flows**

| Event                 | Pond 1 Outlet / Bear Brook Trib     |   |  | Boundary Road Ditch                 |   |  |
|-----------------------|-------------------------------------|---|--|-------------------------------------|---|--|
|                       | Pre Dev Targets (m <sup>3</sup> /s) | Post Dev Peak Inflows (m <sup>3</sup> /s) | Post Dev Peak Outflows (m <sup>3</sup> /s) | Pre Dev Targets (m <sup>3</sup> /s) | Post Dev Peak Inflows (m <sup>3</sup> /s) | Post Dev Peak Outflows (m <sup>3</sup> /s) |
| 25mm CHI 4Hr          | 0.020                               | 0.429                                     | 0.020                                      | 0.001                               | 0.117                                     | 0.001                                      |
| 2-Year CHI 3Hr        | 0.038                               | 0.609                                     | 0.022                                      | 0.003                               | 0.165                                     | 0.003                                      |
| 5-Year CHI 3Hr        | 0.070                               | 0.912                                     | 0.026                                      | 0.005                               | 0.245                                     | 0.003                                      |
| 100-Year CHI 3Hr      | 0.194                               | 1.615                                     | 0.032                                      | 0.015                               | 0.421                                     | 0.003                                      |
| 100-Year SCS 24 Hr    | 0.265                               | 1.567                                     | 0.033                                      | 0.021                               | 0.369                                     | 0.004                                      |
| 100-Year CHI 3Hr +20% | 0.271                               | 1.880                                     | 0.035                                      | 0.021                               | 0.501                                     | 0.004                                      |

### 3.2.2 SWM Pond Summary

**Table 4** outlines the peak water levels and depths and storage volume used for SWM Ponds 1, and 2. Note that flows are contained within the ponds for all events, including the stress test.

**Table 4: SWM Facility Peak Water Surface Elevation (WSE) and Depth**

| Event                 | Pond 1  |           |                    | Pond 2  |           |                    |
|-----------------------|---------|-----------|--------------------|---------|-----------|--------------------|
|                       | Max WSE | Max Depth | Max Storage Volume | Max WSE | Max Depth | Max Storage Volume |
|                       | (m)     | (m)       | (m <sup>3</sup> )  | (m)     | (m)       | (m <sup>3</sup> )  |
| 25mm CHI 4Hr          | 76.22   | 0.42      | 827                | 76.91   | 0.12      | 177                |
| 2-Year CHI 3Hr        | 76.31   | 0.51      | 1,309              | 76.95   | 0.16      | 237                |
| 5-Year CHI 3Hr        | 76.46   | 0.66      | 2,199              | 77.03   | 0.24      | 346                |
| 100-Year CHI 3Hr      | 76.75   | 0.95      | 3,963              | 77.24   | 0.45      | 672                |
| 100-Year SCS 24 Hr    | 76.80   | 1.00      | 4,289              | 77.32   | 0.53      | 798                |
| 100-Year CHI 3Hr +20% | 76.87   | 1.07      | 4,728              | 77.34   | 0.55      | 835                |

### 3.2.3 HGL & Major System Summary

The storm sewer network has been designed by LRL based on 2-year rational method flows to ensure minimal pipe sizes throughout the site while also utilizing major system storage during larger events. The detailed PCSWMM model has been used to assess the minor system’s ability to convey flows greater than the 2-year event, and to ensure the site is not subject to excess flooding during such events. During the 100-year event and stress test, the minor system will become surcharged and the storm sewer network will act as a constriction to flows from the parking area to the SWM pond (as the storm pipes have been designed for the 2-year level of service). This will result in major system ponding within the parking area, but it is important to note that there will be no backflow through the grates at any of these locations during these extreme events. Note that the surcharged storm sewer and ponding depths are not a concern as the building will be slab on grade, located in the highest parts of the site. The following table outlines the HGL at each CB along with the water surface elevation of the ponded water at each respective grate, and the max major system ponding depth.

**Table 5** outlines the maximum HGL within the storm sewer trunk system for both the 100-Year Chicago 3Hr and stress test events. Note that the 100-Year SCS 24-Hour event has not been included as it is not a critical event for this site. Refer to **Figure B2 in Appendix B** for the exact location of each MH.

Based on this analysis the HGL is lower than the major system ponding at all CBMH locations, there is no backflow through the CB grates, and the maximum ponding depth for the 100-year event on the site is **26 cm** and **30cm** for the stress test event, both located at CBMH23, which is within the maximum allowable depths as per the City guidelines. The maximum calculated pond elevations have been provided back to LRL and mapped on the site’s proposed grading surface to indicate the extent of major system ponding during such events, refer to LRL’s **C601** figure for full details of major system ponding.

**Table 5: HGL and Major System Ponding**

| Name       | Top of Grate Elevation (m) | 100-Year CHI 3 Hr |                       |                    |                   | 100-Year CHI 3 Hr + 20% |                       |                    |                   |
|------------|----------------------------|-------------------|-----------------------|--------------------|-------------------|-------------------------|-----------------------|--------------------|-------------------|
|            |                            | Max HGL (m)       | Major Ponding WSE (m) | Major Ponding >HGL | Ponding Depth (m) | Max HGL (m)             | Major Ponding WSE (m) | Major Ponding >HGL | Ponding Depth (m) |
| STM_CBMH01 | 77.94                      | 78.02             | 78.12                 | TRUE               | 0.17              | 78.05                   | 78.15                 | TRUE               | 0.21              |
| STM_CBMH02 | 77.88                      | 77.93             | 78.04                 | TRUE               | 0.16              | 77.97                   | 78.08                 | TRUE               | 0.21              |
| STM_CBMH03 | 77.77                      | 77.54             | 77.91                 | TRUE               | 0.13              | 77.60                   | 77.94                 | TRUE               | 0.16              |
| STM_CBMH04 | 77.91                      | 77.99             | 78.10                 | TRUE               | 0.19              | 78.03                   | 78.14                 | TRUE               | 0.23              |
| STM_CBMH05 | 77.85                      | 77.87             | 77.99                 | TRUE               | 0.14              | 77.92                   | 78.04                 | TRUE               | 0.19              |
| STM_CBMH06 | 77.75                      | 77.65             | 77.88                 | TRUE               | 0.13              | 77.72                   | 77.90                 | TRUE               | 0.15              |
| STM_CBMH07 | 77.88                      | 77.95             | 78.07                 | TRUE               | 0.18              | 78.00                   | 78.11                 | TRUE               | 0.22              |
| STM_CBMH08 | 77.81                      | 77.84             | 77.96                 | TRUE               | 0.15              | 77.89                   | 78.01                 | TRUE               | 0.20              |
| STM_CBMH09 | 77.71                      | 77.62             | 77.84                 | TRUE               | 0.13              | 77.70                   | 77.86                 | TRUE               | 0.15              |
| STM_CBMH10 | 77.84                      | 77.91             | 78.02                 | TRUE               | 0.19              | 77.96                   | 78.07                 | TRUE               | 0.24              |
| STM_CBMH11 | 77.76                      | 77.79             | 77.91                 | TRUE               | 0.15              | 77.85                   | 77.97                 | TRUE               | 0.21              |
| STM_CBMH12 | 77.66                      | 77.58             | 77.79                 | TRUE               | 0.13              | 77.67                   | 77.82                 | TRUE               | 0.15              |
| STM_CBMH13 | 77.77                      | 77.77             | 77.87                 | TRUE               | 0.11              | 77.83                   | 77.93                 | TRUE               | 0.16              |
| STM_CBMH14 | 77.64                      | 77.68             | 77.80                 | TRUE               | 0.15              | 77.75                   | 77.86                 | TRUE               | 0.21              |
| STM_CBMH15 | 77.58                      | 77.50             | 77.71                 | TRUE               | 0.13              | 77.59                   | 77.74                 | TRUE               | 0.15              |
| STM_CBMH16 | 77.51                      | 77.29             | 77.72                 | TRUE               | 0.21              | 77.51                   | 77.77                 | TRUE               | 0.27              |
| STM_CBMH17 | 77.55                      | 77.48             | 77.74                 | TRUE               | 0.19              | 77.58                   | 77.78                 | TRUE               | 0.22              |
| STM_CBMH18 | 77.51                      | 77.16             | 77.64                 | TRUE               | 0.14              | 77.25                   | 77.67                 | TRUE               | 0.17              |
| STM_CBMH19 | 77.30                      | 76.83             | 77.52                 | TRUE               | 0.22              | 76.98                   | 77.56                 | TRUE               | 0.26              |
| STM_CBMH20 | 77.31                      | 77.25             | 77.47                 | TRUE               | 0.16              | 77.37                   | 77.54                 | TRUE               | 0.23              |
| STM_CBMH21 | 77.31                      | 76.93             | 77.44                 | TRUE               | 0.13              | 77.03                   | 77.48                 | TRUE               | 0.17              |
| STM_CBMH22 | 77.50                      | 77.60             | 77.71                 | TRUE               | 0.20              | 77.65                   | 77.75                 | TRUE               | 0.25              |
| STM_CBMH23 | 77.56                      | 77.68             | 77.81                 | TRUE               | 0.26              | 77.73                   | 77.86                 | TRUE               | 0.30              |
| STM_CBMH24 | 77.60                      | 77.53             | 77.68                 | TRUE               | 0.08              | 77.60                   | 77.69                 | TRUE               | 0.09              |
| STM_CBMH25 | 77.51                      | 77.28             | 77.60                 | TRUE               | 0.09              | 77.37                   | 77.61                 | TRUE               | 0.10              |
| STM_CBMH26 | 77.40                      | 77.03             | 77.53                 | TRUE               | 0.13              | 77.11                   | 77.56                 | TRUE               | 0.15              |
| STM_CBMH27 | 78.01                      | 77.64             | 78.12                 | TRUE               | 0.11              | 77.77                   | 78.13                 | TRUE               | 0.13              |
| STM_CBMH28 | 78.00                      | 77.66             | 78.12                 | TRUE               | 0.12              | 77.80                   | 78.14                 | TRUE               | 0.13              |
| STM_CBMH29 | 78.01                      | 77.59             | 78.22                 | TRUE               | 0.21              | 77.70                   | 78.25                 | TRUE               | 0.25              |
|            |                            |                   |                       | <b>Max</b>         | <b>0.26</b>       |                         |                       | <b>Max</b>         | <b>0.30</b>       |

### 3.2.4 100 Year 10 Day Rainfall + Snow Melt Results

**Table 6** below outlines the results of the site during the 100-year 10-day snowmelt event. From this analysis, it is seen that the SWM ponds have sufficient capacity to capture and attenuate flows from the site, and the flow out of the pond during this event is less than that of the pre-development 100-year events. The maximum major system ponding depth on the site for this event was found to be **3 cm** at WS-29.

**Table 6: SWM Summary - 100-Year 10-Day Snowmelt Event**

| SWM    | Pond Max WSE (m) | Freeboard (m) | Max Storage Volume (m <sup>3</sup> ) | Max Outflow (m <sup>3</sup> /s) | Max Major system ponding Depth (cm) | Location |
|--------|------------------|---------------|--------------------------------------|---------------------------------|-------------------------------------|----------|
| Pond 1 | 77.02            | 0.18          | 8451                                 | 0.040                           | 0.03                                | WS-29    |
| Pond 2 | 77.45            | 0.10          | 1023                                 | 0.025                           |                                     |          |

### 3.3 Erosion and sediment control during and after construction

Silt and erosion control strategies shall be implemented during construction activities to minimize the transfer of silt off-site. The following measures should be implemented:

- i) Silt control fences shall be installed as required to prevent the movement of silt off-site during rainfall events.
- ii) Construction of a mud mat shall be installed at the site entrance to promote self-cleaning of truck tires when leaving the site.
- iii) All catch basins shall be equipped with a crushed stone filter to prevent the capture of silt in the storm sewer system.
- iv) Regular cleaning of the adjacent roads shall be undertaken during the construction activities.
- v) Regular inspection and maintenance of the silt control measures shall be undertaken until the site has been stabilized.
- vi) The erosion and sediment control devices shall be removed after the site has been stabilized.



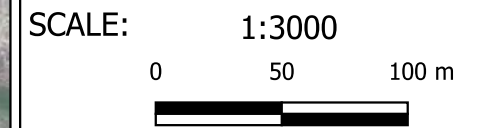
# Appendix A

Pre-Development Model  
(SWMHYMO)



**Legend**

- Subcatchments  
<Name>  
<Area>



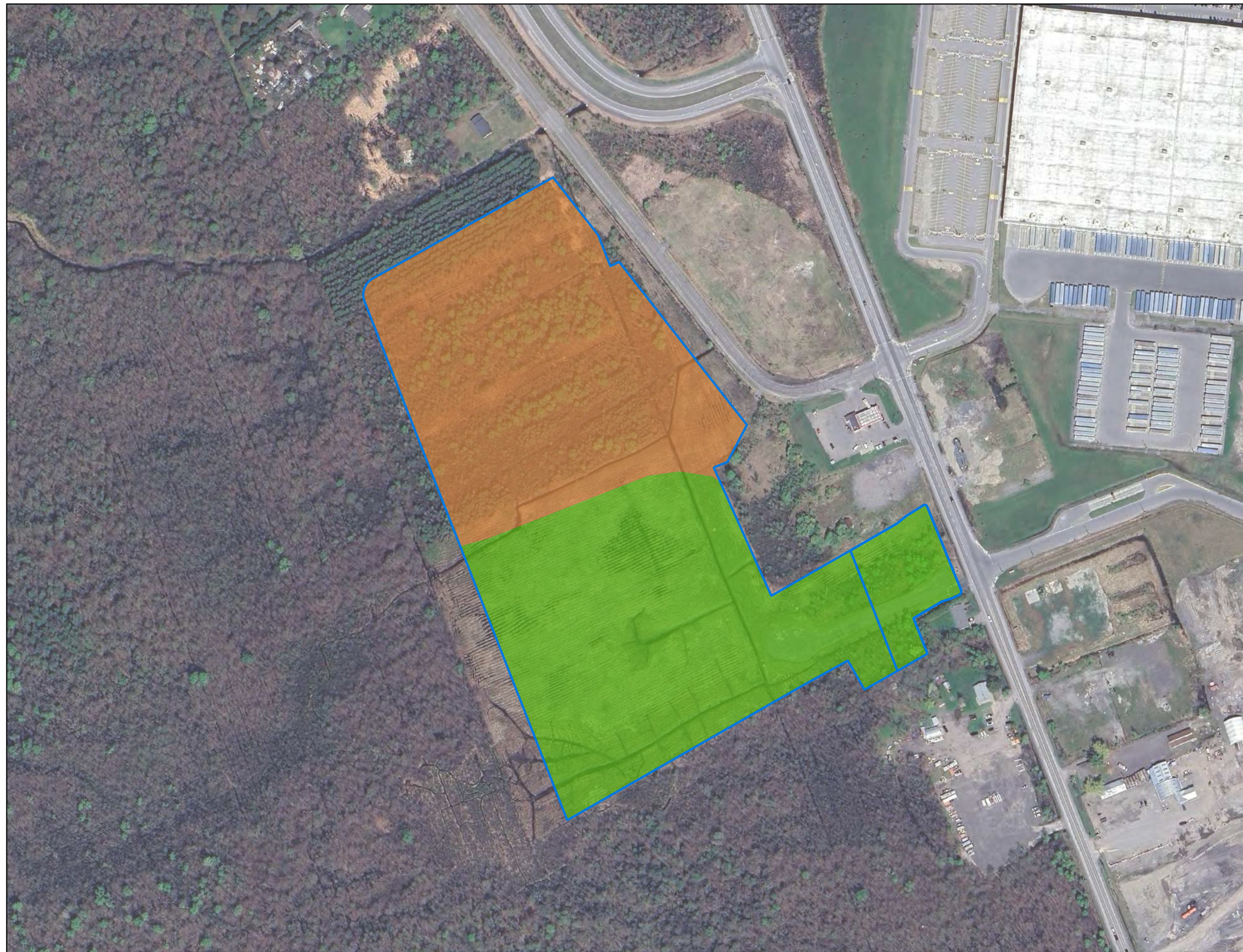
**J.F. Sabourin and Associates Inc.**  
 WATER RESOURCES AND ENVIRONMENTAL CONSULTANTS  
 52 Springbrook Drive (613) 836-3884  
 Ottawa, ON, K2S 1B9 www.jfsa.com

Thunder Road Partnership

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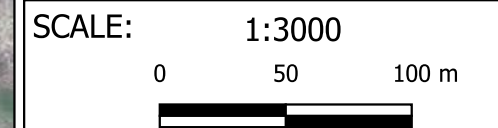
Figure A1: Subcatchments

|         |             |
|---------|-------------|
| PROJECT | 2120(01)-21 |
| DRAWN   | JZ          |
| DATE    | AUGUST 2024 |



**Legend**

- Subcatchments
- Land Use
- Plantation
- Treed Swamp



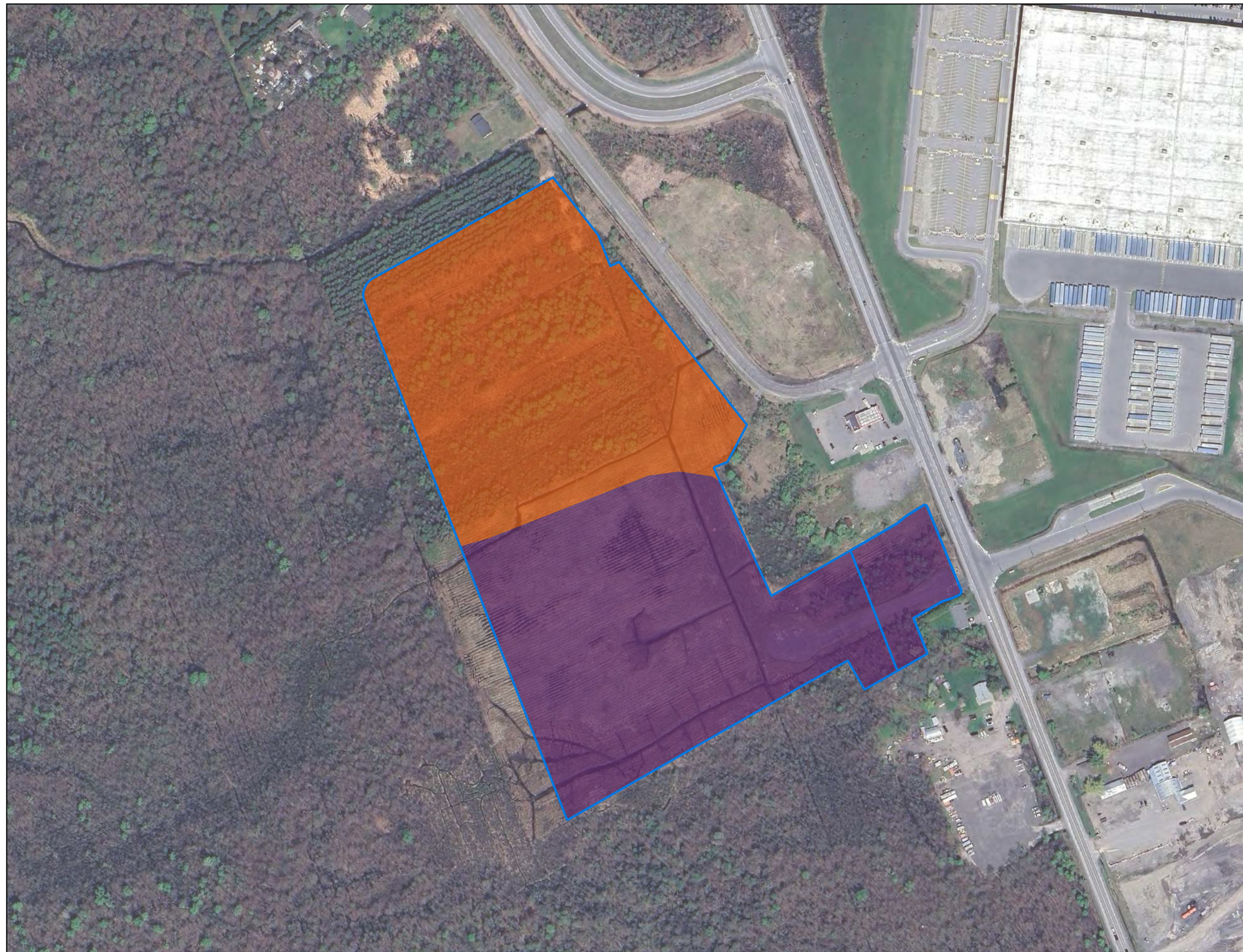
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 52 Springbrook Drive (613) 836-3884  
 Ottawa, ON, K2S 1B9 www.jfsa.com

Thunder Road Partnership

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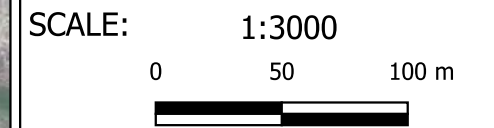
Figure A2: Land Use

|         |             |
|---------|-------------|
| PROJECT | 2120(01)-21 |
| DRAWN   | JZ          |
| DATE    | AUGUST 2024 |



**Legend**

- Subcatchments
- Soil Name (Type)
- ALLENDALE (C)
- CHENEY (C)



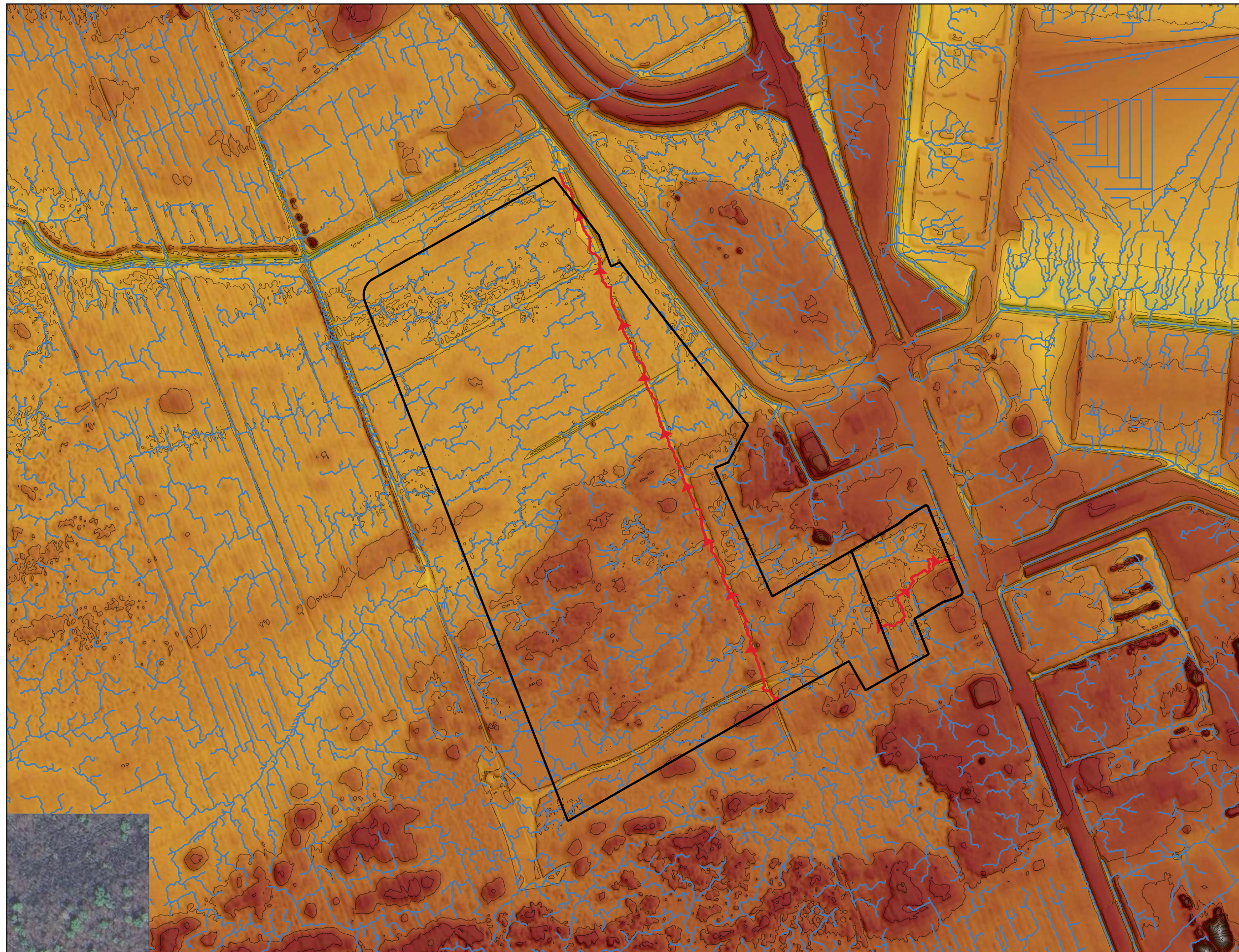
**J.F. Sabourin and Associates Inc.**  
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 52 Springbrook Drive (613) 836-3884  
 Ottawa, ON, K2S 1B9 www.jfsa.com

Thunder Road Partnership

6150 Thunder Road SWM Report

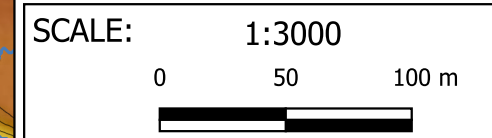
Figure A3: Soil Types

|         |             |
|---------|-------------|
| PROJECT | 2120(01)-21 |
| DRAWN   | JZ          |
| DATE    | AUGUST 2024 |



**Legend**

- Development Area
- Streams
- Major Flow Path
- Terrain (m)
- 70
- 72
- 74
- 76
- 78
- 80
- 82
- 84
- Contours (0.5m)



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Figure A4: Terrain

|         |             |
|---------|-------------|
| PROJECT | 2120(01)-21 |
| DRAWN   | JZ          |
| DATE    | AUGUST 2024 |

**Table A1: Calculation of SCS Curve Number (CN) and Modified Curve Number (CN\*)**

| EWS-01 ( 10.616 ha) |             |           |                |            |    |                |             |
|---------------------|-------------|-----------|----------------|------------|----|----------------|-------------|
| Area (ha)           | Land Type   | Soil Name | Soil Condition | Soil Group | CN | % of Catchment | Weighted CN |
| 5.353               | Treed Swamp | CHENEY    | C              | Good       | 50 | 50.4%          | 25.2        |
| 5.263               | Plantation  | ALLENDALE | C              | Good       | 70 | 49.6%          | 34.7        |
|                     |             |           |                |            |    | <b>CN</b>      | <b>60</b>   |

| EWS-02 ( 0.613 ha) |             |           |                |            |    |                |             |
|--------------------|-------------|-----------|----------------|------------|----|----------------|-------------|
| Area (ha)          | Land Type   | Soil Name | Soil Condition | Soil Group | CN | % of Catchment | Weighted CN |
| 0.613              | Treed Swamp | CHENEY    | C              | Good       | 50 | 100.0%         | 50          |
|                    |             |           |                |            |    | <b>CN*</b>     | <b>50</b>   |

**Table A2: Time to Peak Calculations**

| Parameter   | Units  | EWS-01 | EWS-02 |
|---|--------|--------|--------|
| Area  | ha     | 10.62  | 0.61   |
| CN*   | -      | 60     | 50     |
| Ptotal to calc C from CN, use 2 yr 12 hr SCS stom | P(mm)  | 43.2   | 43.2   |
|   | la(mm) | 4.67   | 4.67   |
|   | RV(mm) | 7.1    | 5.1    |
| C   | -      | 0.16   | 0.12   |
| Length of Channel                                 | m      | 491    | 120    |
|   | ft     | 1611   | 395    |
| Elevation of Head Water                           | m      | 76.98  | 76.97  |
|   | ft     | 253    | 253    |
| Elevation of Outlet                               | m      | 76.00  | 76.58  |
|   | ft     | 249    | 251    |
| Average Slope                                     | m/m    | 0.20%  | 0.32%  |
|   | ft/ft  | 0.20%  | 0.32%  |
| <b>Kirpich</b>                                    |        |        |        |
| Time of Concentration                             | mins   | 25     | 7      |
| Time to Peak                                      | min    | 17     | 5      |
| Time to Peak                                      | Hours  | 0.28   | 0.08   |
| <b>FAA</b>  |        |        |        |
| Time of Concentration                             | mins   | 116    | 51     |
| Time to Peak                                      | mins   | 77     | 34     |
| Time to Peak                                      | Hours  | 1.29   | 0.57   |
| <b>Barnsby Williams</b>                           |        |        |        |
| Time of Concentration                             | mins   | 31     | 9      |
| Time to Peak                                      | mins   | 21     | 6      |
| Time to Peak                                      | Hours  | 0.34   | 0.10   |
| <b>SCS</b>  |        |        |        |
| Time of Concentration                             | mins   | 181    | 59     |
| Time to Peak                                      | mins   | 121    | 39     |
| Time to Peak                                      | Hours  | 2.01   | 0.66   |
| <b>Selected Method</b>                            |        |        |        |
| FAA   |        |        |        |
| Time to Peak                                      | min    | 77     | 34     |
| Time to Peak                                      | Hours  | 1.29   | 0.57   |

Note:

All methods calculated as per Appendix A of the SWMHYMO manual

Time to Peak calculated as 2/3 Time of concentration

```

1 20 Metric units / ID numbers OFF
2 *#*****
3 *# SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
4 *#*****
5 *# Project Name : [6150 Thunder Road SWM - Existing Conditions]
6 *# Project Number : [2120]
7 *# Date : 2024/08/14
8 *# Modeller : JZ
9 *# Company : J.F. Sabourin and Associates
10 *# License # : 2582634
11 *#*****
12 *Model developed to set pre-development release rates for future industrial park
13 *#*****
14 *% 25 mm Storm based on 2-Year, 4-Hour Chicago Storm
15 START TZERO=[0.0], METOUT=[2], NSTORM=[1], NRUN=[001]
16 [ "25MM4H.stm" ] <--storm filename, one per line for NSTORM time
17 *%-----|-----
18 READ STORM STORM_FILENAME=[ "storm.001" ]
19 *%-----|-----
20 *DEFAULT VALUES ICASEdef=[1], read and print values
21 * DEFVAL_FILENAME=[ "Ottawa.val" ]
22 *%-----|-----
23 *#####
24 *# Pre-Development Drainage Area
25 *#####
26 CALIB NASHYD NHYD=[ "EWS-01" ], DT=[1] (min), AREA=[10.616] (ha),
27 DWF=[0] (cms), CN=[60], IA=[4.67] (mm), N=[3], TP[1.29] (hrs),
28 RAINFALL[ , , -1]
29 *%-----|-----
30 CALIB NASHYD NHYD=[ "EWS-02" ], DT=[1] (min), AREA=[0.613] (ha),
31 DWF=[0] (cms), CN=[50], IA=[4.67] (mm), N=[3], TP[0.57] (hrs),
32 RAINFALL[ , , -1]
33 *%-----|-----
34 *#####
35 *# STORMS
36 *#####
37 *% 25 mm Storm based on 2-Year, 3-Hour Chicago Storm
38 *%START TZERO=[0.0], METOUT=[2], NSTORM=[1], NRUN=[001]
39 *% [ "25MMC3H.stm" ] <--storm filename, one per line for NSTORM time
40 *%-----|-----
41 *% 2-Year, 3-Hour Chicago Storm
42 START TZERO=[0.0], METOUT=[2], NSTORM=[1], NRUN=[002]
43 [ "002YC3H.stm" ] <--storm filename, one per line for NSTORM time
44 *%-----|-----
45 *% 5-Year, 3-Hour Chicago Storm
46 START TZERO=[0.0], METOUT=[2], NSTORM=[1], NRUN=[005]
47 [ "005YC3H.stm" ] <--storm filename, one per line for NSTORM time
48 *%-----|-----
49 *% 10-Year, 3-Hour Chicago Storm
50 START TZERO=[0.0], METOUT=[2], NSTORM=[1], NRUN=[010]
51 [ "010YC3H.stm" ] <--storm filename, one per line for NSTORM time
52 *%-----|-----
53 *% 25-Year, 3-Hour Chicago Storm
54 START TZERO=[0.0], METOUT=[2], NSTORM=[1], NRUN=[025]
55 [ "025YC3H.stm" ] <--storm filename, one per line for NSTORM time
56 *%-----|-----
57 *% 50-Year, 3-Hour Chicago Storm
58 START TZERO=[0.0], METOUT=[2], NSTORM=[1], NRUN=[050]
59 [ "050YC3H.stm" ] <--storm filename, one per line for NSTORM time
60 *%-----|-----
61 *% 100-Year, 3-Hour Chicago Storm
62 START TZERO=[0.0], METOUT=[2], NSTORM=[1], NRUN=[099]
63 [ "100YC3H.stm" ] <--storm filename, one per line for NSTORM time
64 *%-----|-----
65 *% 2-Year, 24-Hour SCS Storm
66 START TZERO=[0.0], METOUT=[2], NSTORM=[1], NRUN=[102]
67 [ "SC24002x.stm" ] <--storm filename, one per line for NSTORM time
68 *%-----|-----
69 *% 5-Year, 24-Hour SCS Storm

```



```

70 START ..... TZERO=[0.0], METOUT=[2], NSTORM=[1], NRUN=[105]
71 ..... ["SC24005x.stm"] <--storm filename, one per line for NSTORM time
72 *%-----|-----
73 *% 10-Year, 24-Hour SCS Storm
74 START ..... TZERO=[0.0], METOUT=[2], NSTORM=[1], NRUN=[110]
75 ..... ["SC24010x.stm"] <--storm filename, one per line for NSTORM time
76 *%-----|-----
77 *% 25-Year, 24-Hour SCS Storm
78 START ..... TZERO=[0.0], METOUT=[2], NSTORM=[1], NRUN=[125]
79 ..... ["SC24025x.stm"] <--storm filename, one per line for NSTORM time
80 *%-----|-----
81 *% 50-Year, 24-Hour SCS Storm
82 START ..... TZERO=[0.0], METOUT=[2], NSTORM=[1], NRUN=[150]
83 ..... ["SC24050x.stm"] <--storm filename, one per line for NSTORM time
84 *%-----|-----
85 *% 100-Year, 24-Hour SCS Storm
86 START ..... TZERO=[0.0], METOUT=[2], NSTORM=[1], NRUN=[199]
87 ..... ["SC24100x.stm"] <--storm filename, one per line for NSTORM time
88 *%-----|-----
89 *% 2-Year, 12-Hour SCS Storm
90 *START ..... TZERO=[0.0], METOUT=[2], NSTORM=[1], NRUN=[202]
91 *% ..... ["SC12002c.stm"] <--storm filename, one per line for NSTORM time
92 *%-----|-----
93 *% 5-Year, 12-Hour SCS Storm
94 *START ..... TZERO=[0.0], METOUT=[2], NSTORM=[1], NRUN=[205]
95 *% ..... ["SC12005c.stm"] <--storm filename, one per line for NSTORM time
96 *%-----|-----
97 *% 10-Year, 12-Hour SCS Storm
98 *START ..... TZERO=[0.0], METOUT=[2], NSTORM=[1], NRUN=[210]
99 *% ..... ["SC12010c.stm"] <--storm filename, one per line for NSTORM time
100 *%-----|-----
101 *% 25-Year, 12-Hour SCS Storm
102 *START ..... TZERO=[0.0], METOUT=[2], NSTORM=[1], NRUN=[225]
103 *% ..... ["SC12025c.stm"] <--storm filename, one per line for NSTORM time
104 *%-----|-----
105 *% 50-Year, 12-Hour SCS Storm
106 *START ..... TZERO=[0.0], METOUT=[2], NSTORM=[1], NRUN=[250]
107 *% ..... ["SC12050c.stm"] <--storm filename, one per line for NSTORM time
108 *%-----|-----
109 *% 100-Year, 12-Hour SCS Storm
110 *START ..... TZERO=[0.0], METOUT=[2], NSTORM=[1], NRUN=[299]
111 *% ..... ["SC12100c.stm"] <--storm filename, one per line for NSTORM time
112 *%-----|-----
113 *% July 1st, 1979 Storm - Ottawa International Airport
114 *START ..... TZERO=[0.0], METOUT=[2], NSTORM=[1], NRUN=[979]
115 *% ..... ["19790701.stm"] <--storm filename, one per line for NSTORM time
116 *%-----|-----
117 *% August 4th, 1988 Storm - Ottawa International Airport
118 *START ..... TZERO=[0.0], METOUT=[2], NSTORM=[1], NRUN=[988]
119 *% ..... ["19880804.stm"] <--storm filename, one per line for NSTORM time
120 *%-----|-----
121 *% August 8th, 1996 Storm - Ottawa International Airport
122 *START ..... TZERO=[0.0], METOUT=[2], NSTORM=[1], NRUN=[996]
123 *% ..... ["19960808.stm"] <--storm filename, one per line for NSTORM time
124 *%-----|-----
125 *% 100-Year, 24-Hour SCS Storm + 20%
126 *START ..... TZERO=[0.0], METOUT=[2], NSTORM=[1], NRUN=[998]
127 *% ..... ["SC24100x+.stm"] <--storm filename, one per line for NSTORM time
128 *%-----|-----
129 *% 100-Year, 3-Hour Chicago Storm + 20%
130 START ..... TZERO=[0.0], METOUT=[2], NSTORM=[1], NRUN=[999]
131 ..... ["100YC3H+.stm"] <--storm filename, one per line for NSTORM time
132 *%-----|-----
133 FINISH

```



```

00361 # Project Name : [6150 Thunder Road SMM - Existing Conditions]
00362 # Project Number: [2120]
00363 # Date : 2024/08/14
00364 # Modeler : JZ
00365 # Company : J.F. Sabourin and Associates
00366 # License # : 2582634
00367 #*****#
00368 #*****#
00369 R0102:C00002-----
00370 READ STORM
00371 File Name = storm.001
00372 Comment = 2 years SCS Type 2 Storm 24 Hours step 10 min, City of Ottawa
00373 (SDT=10.00;SDDR= 24.00;PTOT= 48.46)
00374 #*****#
00375 # Pre-Development Drainage Area
00376 #*****#
00377 # Pre-Development Drainage Area
00378 CALIB NASHYD 1.0 01:EM=01 10.62 .060 No_date 13:25 9.00 .186 .000
00379 [CN= 60.0; N= 3.00; T= 1.29]
00380 R0102:C00004-----DRAIN-ID:INVD-----AREAha-QPEARcms-TpeakDate_hh:mm--Rvmm-R.C.--DWFcms
00381 CALIB NASHYD 1.0 01:EM=02 .61 .004 No_date 12:13 6.44 .133 .000
00382 [CN= 50.0; N= 3.00; T= .57]
00383 #*****#
00384 # STORMS
00385 #*****#
00386 ** END OF RUN : 104
00387 #*****#
00388 #*****#
00389 #*****#
00390 #*****#
00391 #*****#
00392 #*****#
00393 #*****#
00394 RUN#COMMAND#
00395 START
00396 (TZERO = .00 hrs on 0)
00397 (METOUT= 2 (1=Imperial, 2=metric output))
00398 (NETORM= 1)
00399 (NRUN = 010)
00400 #*****#
00401 # SWMHYD Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
00402 #*****#
00403 # Project Name : [6150 Thunder Road SMM - Existing Conditions]
00404 # Project Number: [2120]
00405 # Date : 2024/08/14
00406 # Modeler : JZ
00407 # Company : J.F. Sabourin and Associates
00408 # License # : 2582634
00409 #*****#
00410 #*****#
00411 #*****#
00412 R0105:C00001-----
00413 READ STORM
00414 File Name = storm.001
00415 Comment = 3 years SCS Type 2 Storm 24 Hours step 10 min, City of Ottawa
00416 (SDT=10.00;SDDR= 24.00;PTOT= 64.11)
00417 #*****#
00418 # Pre-Development Drainage Area
00419 #*****#
00420 # Pre-Development Drainage Area
00421 CALIB NASHYD 1.0 01:EM=01 10.62 .104 No_date 13:23 15.44 .241 .000
00422 [CN= 60.0; N= 3.00; T= 1.29]
00423 R0105:C00004-----DRAIN-ID:INVD-----AREAha-QPEARcms-TpeakDate_hh:mm--Rvmm-R.C.--DWFcms
00424 CALIB NASHYD 1.0 01:EM=02 .61 .008 No_date 12:32 11.27 .176 .000
00425 [CN= 50.0; N= 3.00; T= .57]
00426 #*****#
00427 # STORMS
00428 #*****#
00429 ** END OF RUN : 109
00430 #*****#
00431 #*****#
00432 #*****#
00433 #*****#
00434 #*****#
00435 #*****#
00436 #*****#
00437 RUN#COMMAND#
00438 R0110:C00001-----
00439 START
00440 (TZERO = .00 hrs on 0)
00441 (METOUT= 2 (1=Imperial, 2=metric output))
00442 (NETORM= 1)
00443 (NRUN = 010)
00444 #*****#
00445 # SWMHYD Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
00446 #*****#
00447 # Project Name : [6150 Thunder Road SMM - Existing Conditions]
00448 # Project Number: [2120]
00449 # Date : 2024/08/14
00450 # Modeler : JZ
00451 # Company : J.F. Sabourin and Associates
00452 # License # : 2582634
00453 #*****#
00454 #*****#
00455 #*****#
00456 R0110:C00002-----
00457 READ STORM
00458 File Name = storm.001
00459 Comment = 10 years SCS Type 2 Storm 24 Hours step 10 min, City of Ottawa
00460 (SDT=10.00;SDDR= 24.00;PTOT= 74.35)
00461 #*****#
00462 # Pre-Development Drainage Area
00463 #*****#
00464 # Pre-Development Drainage Area
00465 CALIB NASHYD 1.0 01:EM=01 10.62 .138 No_date 13:22 20.32 .273 .000
00466 [CN= 60.0; N= 3.00; T= 1.29]
00467 R0110:C00004-----DRAIN-ID:INVD-----AREAha-QPEARcms-TpeakDate_hh:mm--Rvmm-R.C.--DWFcms
00468 CALIB NASHYD 1.0 01:EM=02 .61 .010 No_date 12:32 15.00 .202 .000
00469 [CN= 50.0; N= 3.00; T= .57]
00470 #*****#
00471 #*****#
00472 ** END OF RUN : 124
00473 #*****#
00474 #*****#
00475 #*****#
00476 #*****#
00477 #*****#
00478 #*****#
00479 #*****#
00480 RUN#COMMAND#
00481 R0125:C00001-----
00482 START
00483 (TZERO = .00 hrs on 0)
00484 (METOUT= 2 (1=Imperial, 2=metric output))
00485 (NETORM= 1)
00486 (NRUN = 025)
00487 #*****#
00488 # SWMHYD Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
00489 #*****#
00490 # Project Name : [6150 Thunder Road SMM - Existing Conditions]
00491 # Project Number: [2120]
00492 # Date : 2024/08/14
00493 # Modeler : JZ
00494 # Company : J.F. Sabourin and Associates
00495 # License # : 2582634
00496 #*****#
00497 #*****#
00498 #*****#
00499 R0125:C00002-----
00500 READ STORM
00501 File Name = storm.001
00502 Comment = 25 years SCS Type 2 Storm 24 Hours step 10 min, City of Ottawa
00503 (SDT=10.00;SDDR= 24.00;PTOT= 86.99)
00504 # Pre-Development Drainage Area
00505 #*****#
00506 # Pre-Development Drainage Area
00507 CALIB NASHYD 1.0 01:EM=01 10.62 .184 No_date 13:22 26.87 .309 .000
00508 [CN= 60.0; N= 3.00; T= 1.29]
00509 R0125:C00004-----DRAIN-ID:INVD-----AREAha-QPEARcms-TpeakDate_hh:mm--Rvmm-R.C.--DWFcms
00510 CALIB NASHYD 1.0 01:EM=02 .61 .014 No_date 12:32 20.10 .231 .000
00511 [CN= 50.0; N= 3.00; T= .57]
00512 #*****#
00513 # STORMS
00514 #*****#
00515 ** END OF RUN : 149
00516 #*****#
00517 #*****#
00518 #*****#
00519 #*****#
00520 #*****#
00521 #*****#
00522 #*****#
00523 RUN#COMMAND#
00524 R0150:C00001-----
00525 START
00526 (TZERO = .00 hrs on 0)
00527 (METOUT= 2 (1=Imperial, 2=metric output))
00528 (NETORM= 1)
00529 (NRUN = 010)
00530 #*****#
00531 # SWMHYD Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
00532 #*****#
00533 # Project Name : [6150 Thunder Road SMM - Existing Conditions]
00534 # Project Number: [2120]
00535 # Date : 2024/08/14
00536 # Modeler : JZ
00537 # Company : J.F. Sabourin and Associates
00538 # License # : 2582634
00539 #*****#
00540 #*****#

```

```

00541 R0150:C00002-----
00542 READ STORM
00543 File Name = storm.001
00544 Comment = 50 years SCS Type 2 Storm 24 Hours step 10 min, City of Ottawa
00545 (SDT=10.00;SDDR= 24.00;PTOT= 96.31)
00546 #*****#
00547 # Pre-Development Drainage Area
00548 #*****#
00549 # Pre-Development Drainage Area
00550 CALIB NASHYD 1.0 01:EM=01 10.62 .222 No_date 13:21 32.30 .333 .000
00551 [CN= 60.0; N= 3.00; T= 1.29]
00552 R0150:C00004-----DRAIN-ID:INVD-----AREAha-QPEARcms-TpeakDate_hh:mm--Rvmm-R.C.--DWFcms
00553 CALIB NASHYD 1.0 01:EM=02 .61 .017 No_date 12:31 24.39 .253 .000
00554 [CN= 50.0; N= 3.00; T= .57]
00555 #*****#
00556 # STORMS
00557 #*****#
00558 ** END OF RUN : 198
00559 #*****#
00560 #*****#
00561 #*****#
00562 #*****#
00563 #*****#
00564 #*****#
00565 #*****#
00566 RUN#COMMAND#
00567 R0199:C00001-----
00568 START
00569 (TZERO = .00 hrs on 0)
00570 (METOUT= 2 (1=Imperial, 2=metric output))
00571 (NETORM= 1)
00572 (NRUN = 019)
00573 #*****#
00574 # SWMHYD Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
00575 #*****#
00576 # Project Name : [6150 Thunder Road SMM - Existing Conditions]
00577 # Project Number: [2120]
00578 # Date : 2024/08/14
00579 # Modeler : JZ
00580 # Company : J.F. Sabourin and Associates
00581 # License # : 2582634
00582 #*****#
00583 #*****#
00584 R0199:C00002-----
00585 READ STORM
00586 File Name = storm.001
00587 Comment = 100 years SCS Type 2 Storm 24 Hours step 10 min, City of Ottawa
00588 (SDT=10.00;SDDR= 24.00;PTOT= 106.73)
00589 #*****#
00590 # Pre-Development Drainage Area
00591 #*****#
00592 # Pre-Development Drainage Area
00593 CALIB NASHYD 1.0 01:EM=01 10.62 .265 No_date 13:21 38.38 .360 .000
00594 [CN= 60.0; N= 3.00; T= 1.29]
00595 R0199:C00004-----DRAIN-ID:INVD-----AREAha-QPEARcms-TpeakDate_hh:mm--Rvmm-R.C.--DWFcms
00596 CALIB NASHYD 1.0 01:EM=02 .61 .021 No_date 12:31 29.25 .274 .000
00597 [CN= 50.0; N= 3.00; T= .57]
00598 #*****#
00599 # STORMS
00600 #*****#
00601 ** END OF RUN : 998
00602 #*****#
00603 #*****#
00604 #*****#
00605 #*****#
00606 #*****#
00607 #*****#
00608 #*****#
00609 RUN#COMMAND#
00610 R0999:C00001-----
00611 START
00612 (TZERO = .00 hrs on 0)
00613 (METOUT= 2 (1=Imperial, 2=metric output))
00614 (NETORM= 1)
00615 (NRUN = 099)
00616 #*****#
00617 # SWMHYD Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
00618 #*****#
00619 # Project Name : [6150 Thunder Road SMM - Existing Conditions]
00620 # Project Number: [2120]
00621 # Date : 2024/08/14
00622 # Modeler : JZ
00623 # Company : J.F. Sabourin and Associates
00624 # License # : 2582634
00625 #*****#
00626 #*****#
00627 R0999:C00002-----
00628 READ STORM
00629 File Name = storm.001
00630 Comment = CHUCK STORM 100 Year, 3 Hours +20% Stress Test
00631 (SDT=10.00;SDDR= 3.00;PTOT= 86.00)
00632 #*****#
00633 # Pre-Development Drainage Area
00634 #*****#
00635 # Pre-Development Drainage Area
00636 CALIB NASHYD 1.0 01:EM=01 10.62 .271 No_date 2:38 26.39 .307 .000
00637 [CN= 60.0; N= 3.00; T= 1.29]
00638 R0999:C00004-----DRAIN-ID:INVD-----AREAha-QPEARcms-TpeakDate_hh:mm--Rvmm-R.C.--DWFcms
00639 CALIB NASHYD 1.0 01:EM=02 .61 .021 No_date 1:43 19.72 .229 .000
00640 [CN= 50.0; N= 3.00; T= .57]
00641 #*****#
00642 # STORMS
00643 #*****#
00644 R0999:C00002-----
00645 FINISH
00646 #*****#
00647 #*****#
00648 #*****#
00649 #*****#
00650 #*****#
00651 #*****#
00652 #*****#

```

# Appendix B

Post Development Model  
(PCSWMM)



### Legend

- Subcatchments  
<Name>  
<Area (ha)>  
<% Imp>
- Site Plan



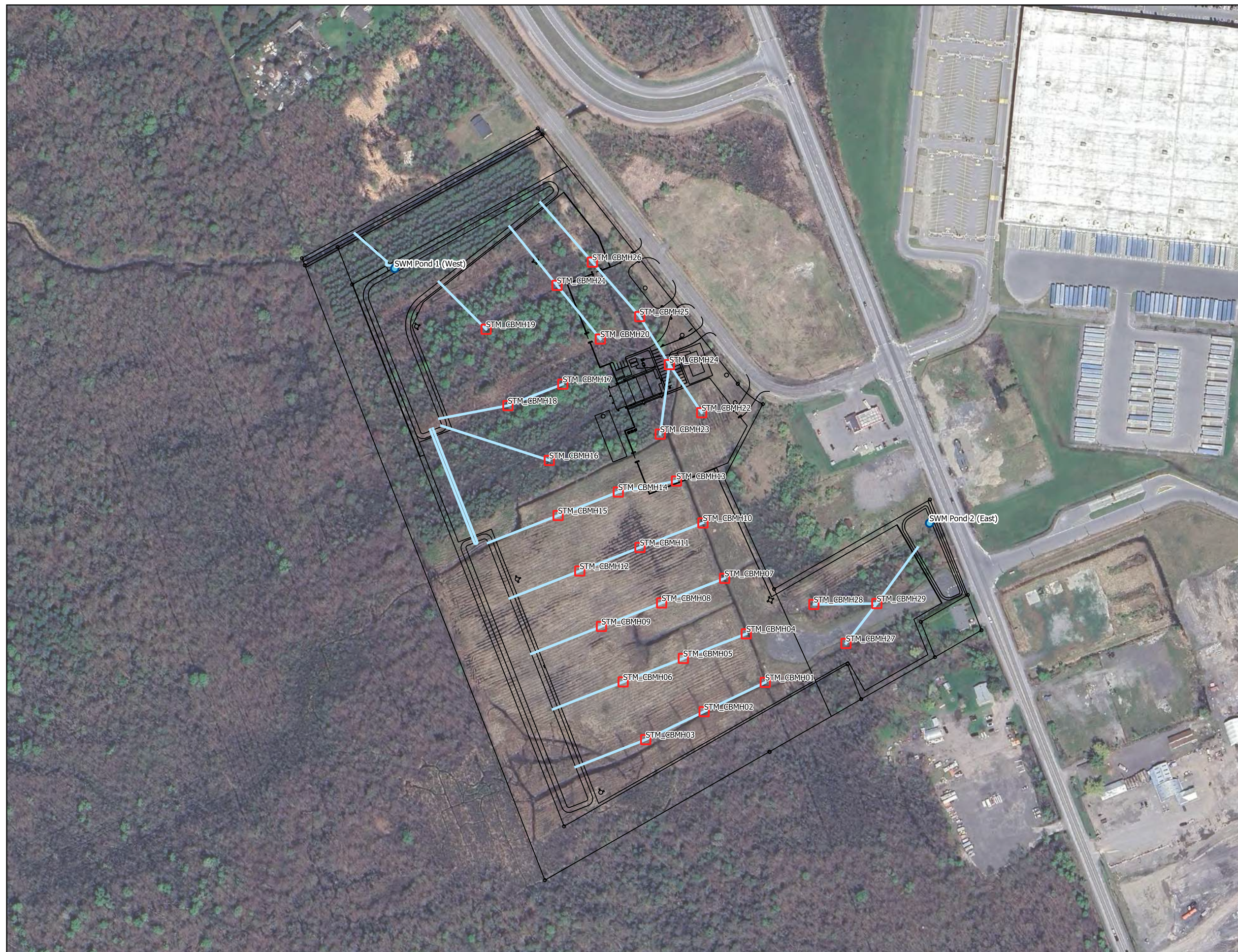
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 Ottawa, ON, K2S 1B9 www.jfsa.com

Thunder Road Partnership

6150 Thunder Road SWM Report

Figure B1: Subcatchments

|         |             |
|---------|-------------|
| PROJECT | 2120(01)-21 |
| DRAWN   | JZ          |
| DATE    | AUGUST 2024 |



**Legend**

- CBMH
- Outlet
- Minor System Conduits
- Site Plan



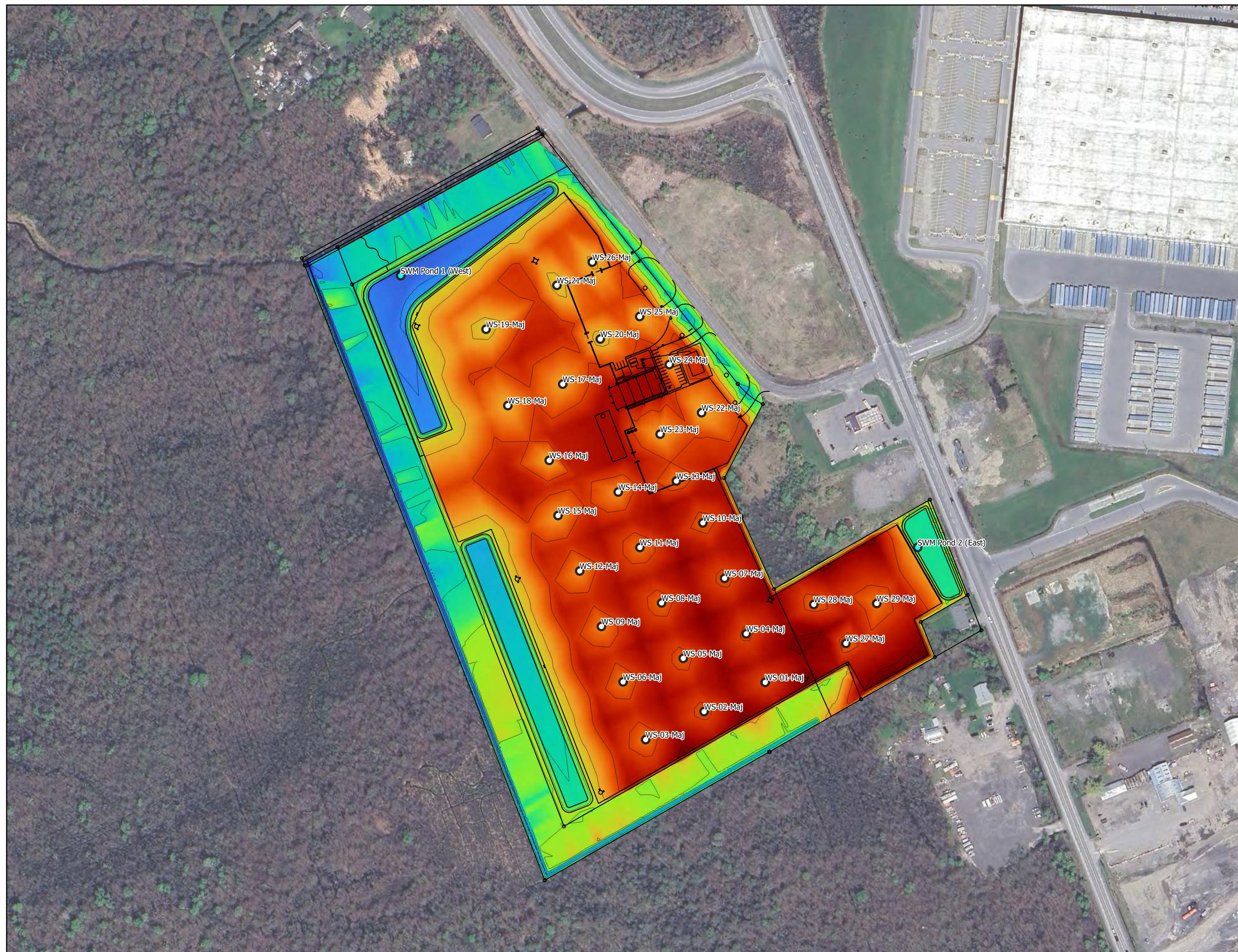
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Figure B2: Minor System

|         |             |
|---------|-------------|
| PROJECT | 2120(01)-21 |
| DRAWN   | JZ          |
| DATE    | AUGUST 2024 |



**Legend**

- Major System
- Ponds

**PROPOSED TERRAIN**

- 78.6
- 75.4
- Contours (0.5m)
- Site Plan



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Figure B3: Major System

|         |             |
|---------|-------------|
| PROJECT | 2120(01)-21 |
| DRAWN   | JZ          |
| DATE    | AUGUST 2024 |




# Appendix C

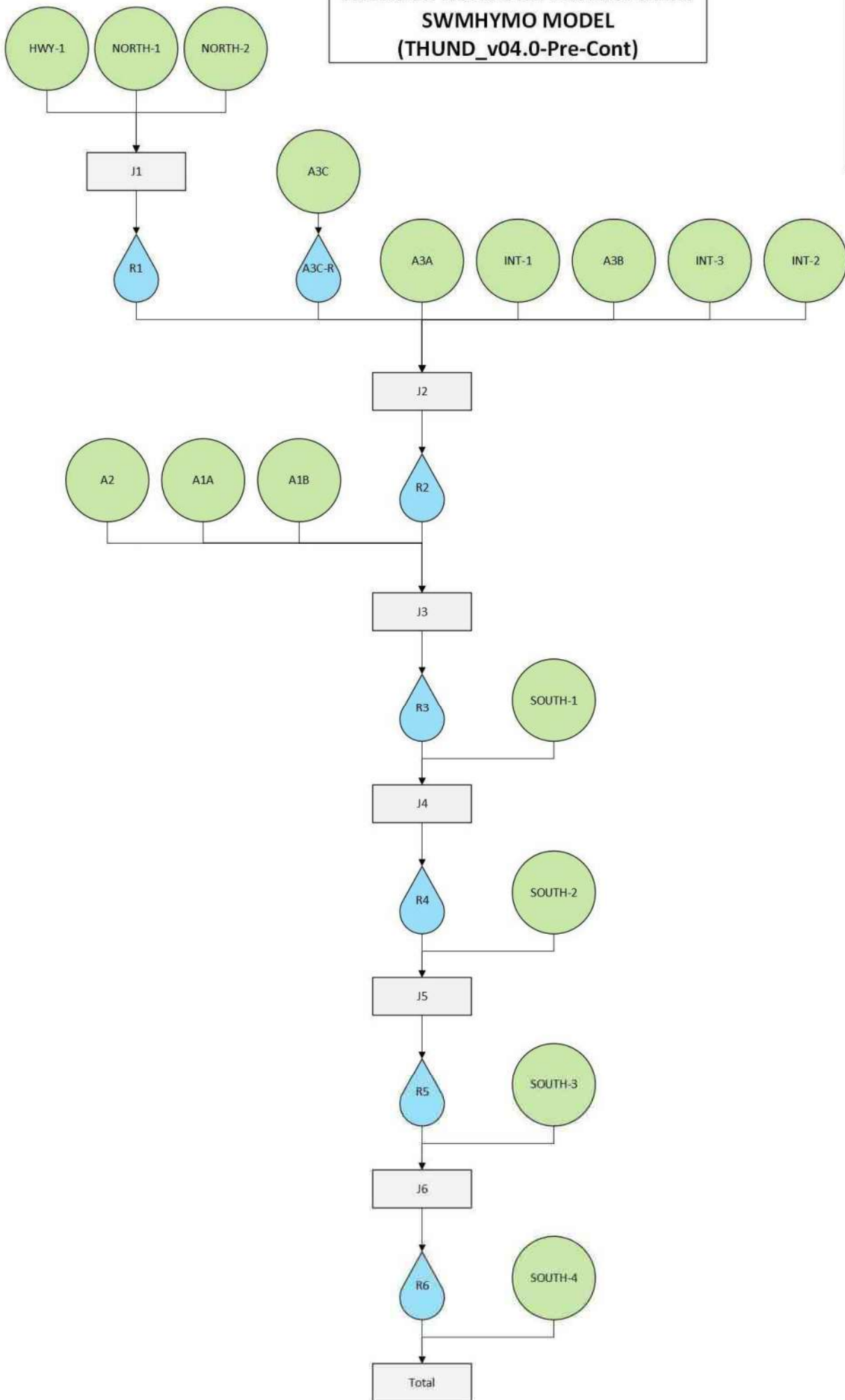
Erosion Analysis



**THUNDER ROAD PRE-DEVELOPMENT  
SWMHYMO MODEL  
(THUND\_v04.0-Pre-Cont)**






**LEGEND**

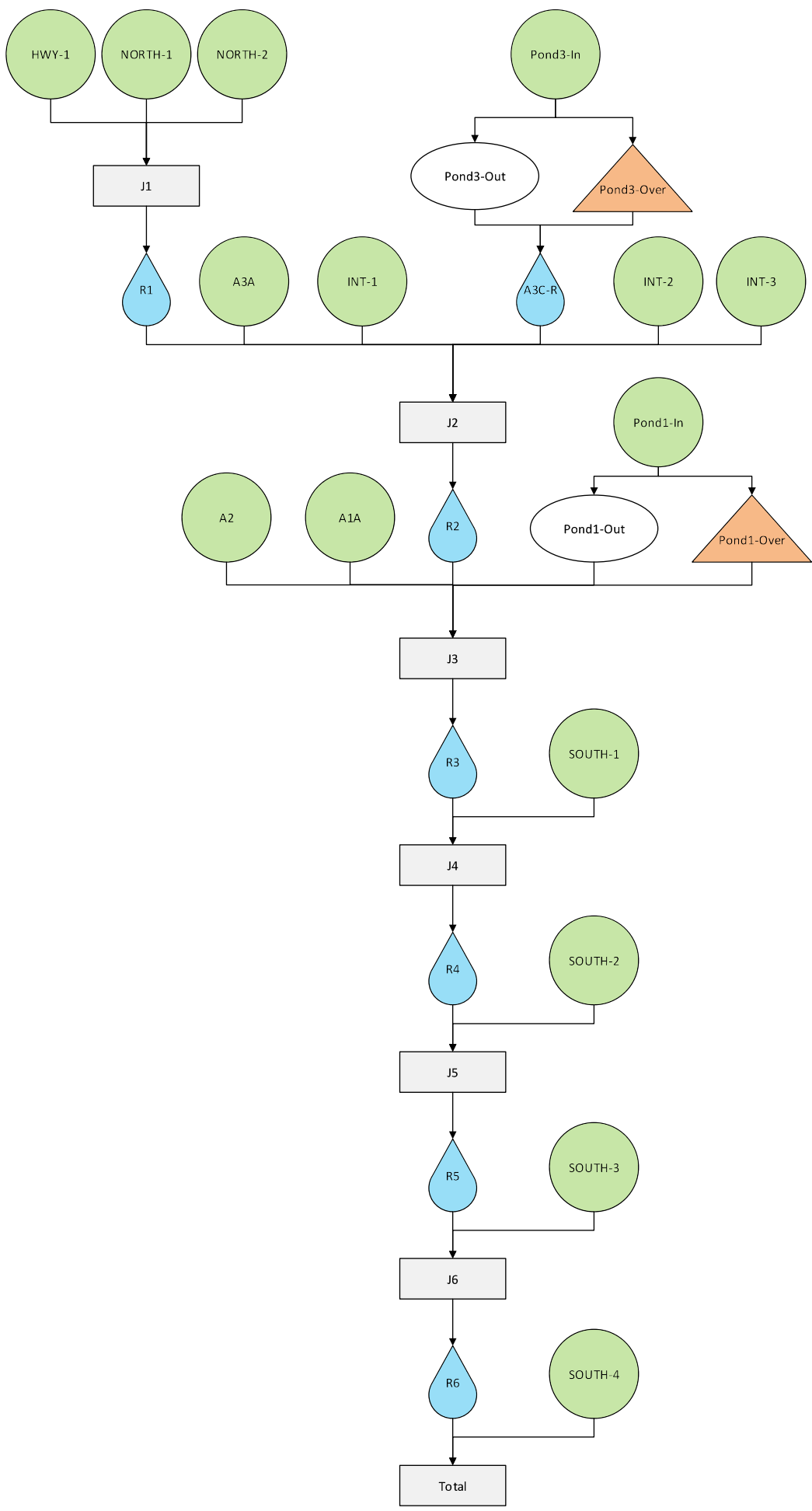
-  SUB-CATCHMENT ID
-  ADD HYDROGRAPH
-  CHANNEL ROUTING

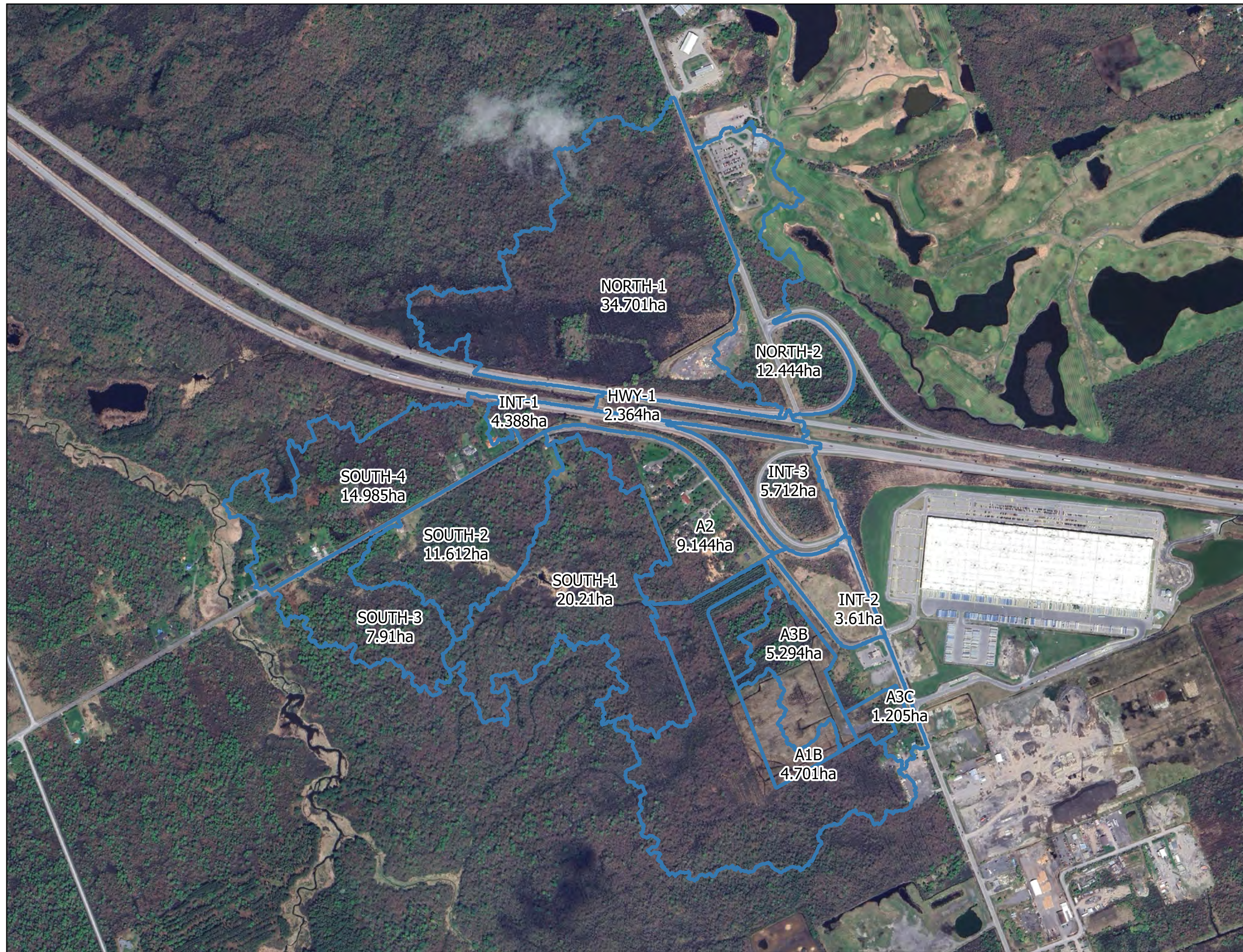


# THUNDER ROAD POST-DEVELOPMENT SWMHYMO MODEL (THUND\_v04.0-Post-Cont)

**LEGEND**

-  SUB-CATCHMENT ID
-  ADD HYDROGRAPH
-  CHANNEL ROUTING
-  RESERVOIR ROUTING
-  RESERVOIR OVERFLOW

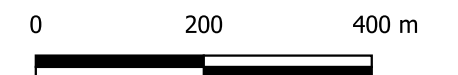




**Legend**

- Drainage Areas  
[Name]  
[Areas]

SCALE: 1:9000



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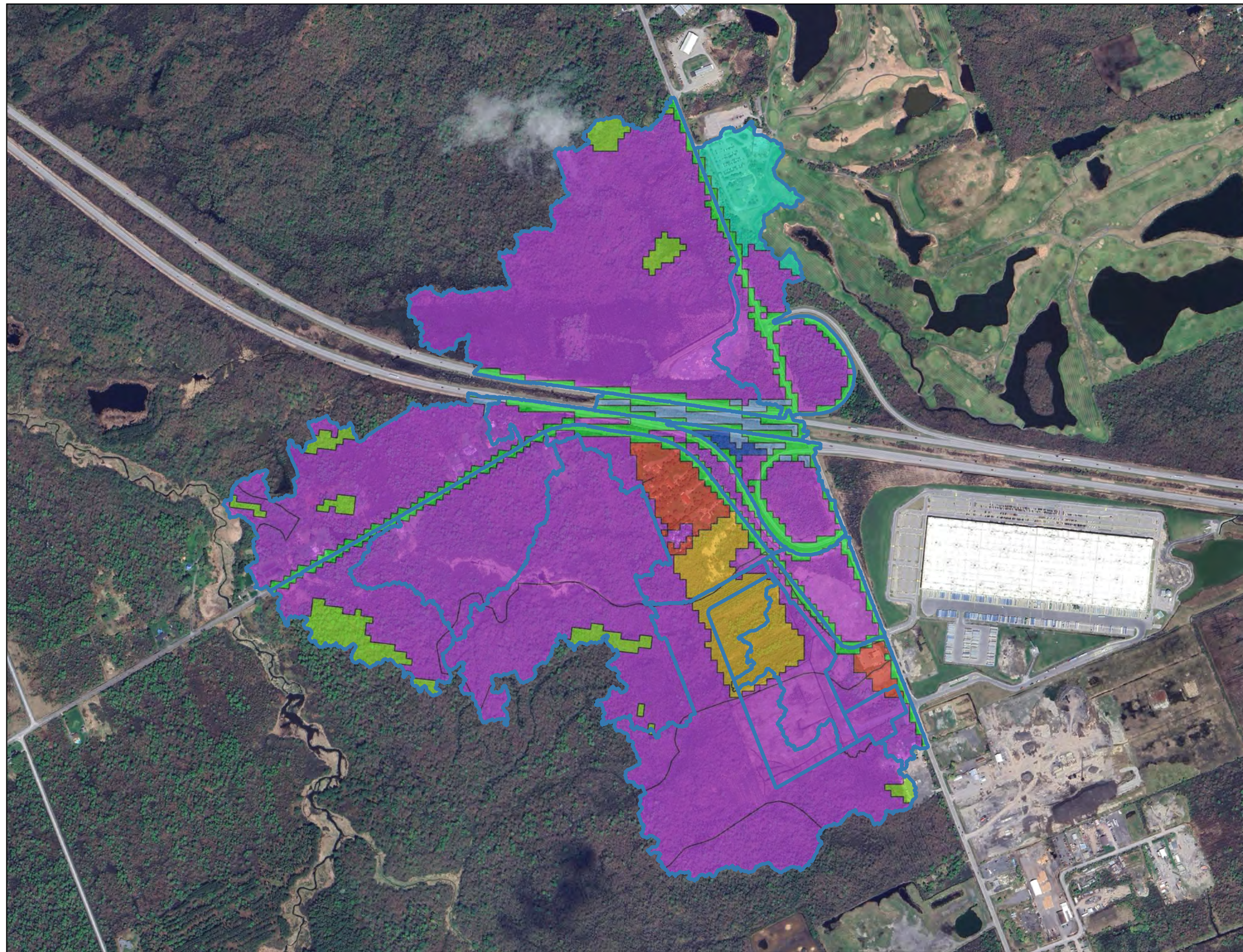
6150 Thunder Road

Figure C1 - Drainage Areas

|         |             |
|---------|-------------|
| PROJECT | 2120(01)-21 |
|---------|-------------|

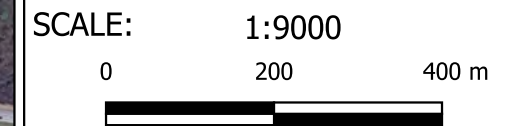
|       |    |
|-------|----|
| DRAWN | JZ |
|-------|----|

|      |          |
|------|----------|
| DATE | AUG 2024 |
|------|----------|



**Legend**

- Drainage Areas
- Land Use
- Treed Swamp
- Plantation
- Transportation
- Built Up Area - Impervious
- Deciduous Forest
- Built Up Area - Pervious
- Tilled
- Forest



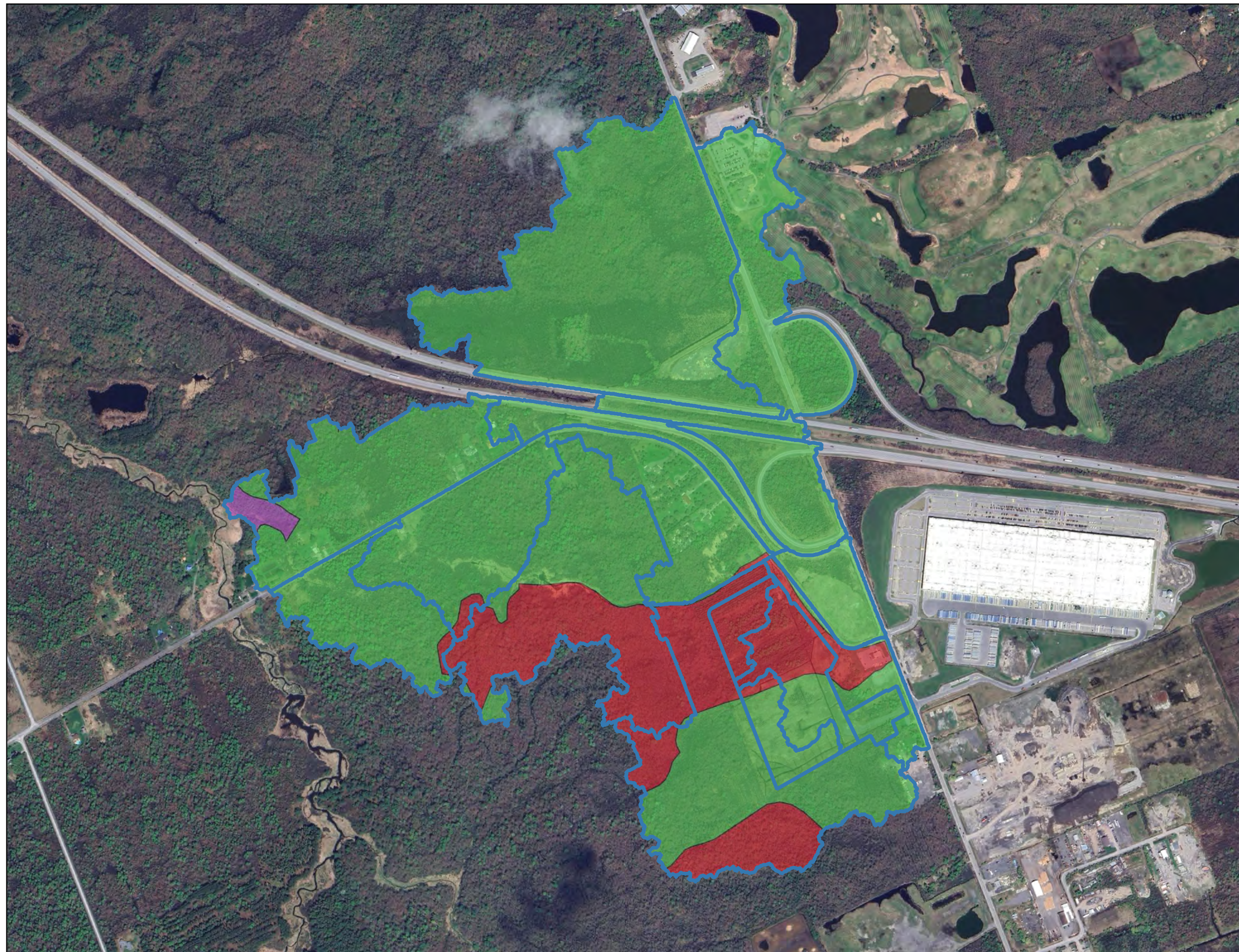
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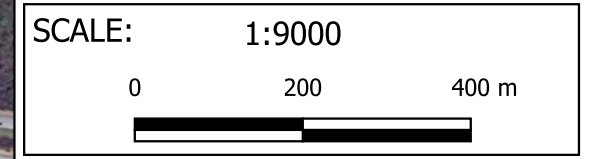
Figure C2 - Land Use

|         |             |
|---------|-------------|
| PROJECT | 2120(01)-21 |
| DRAWN   | JZ          |
| DATE    | AUG 2024    |



**Legend**

- Drainage Areas
- Soil Type
- ALLENDALE (C)
- CHENEY (C)
- ERODED CHANNEL (N)



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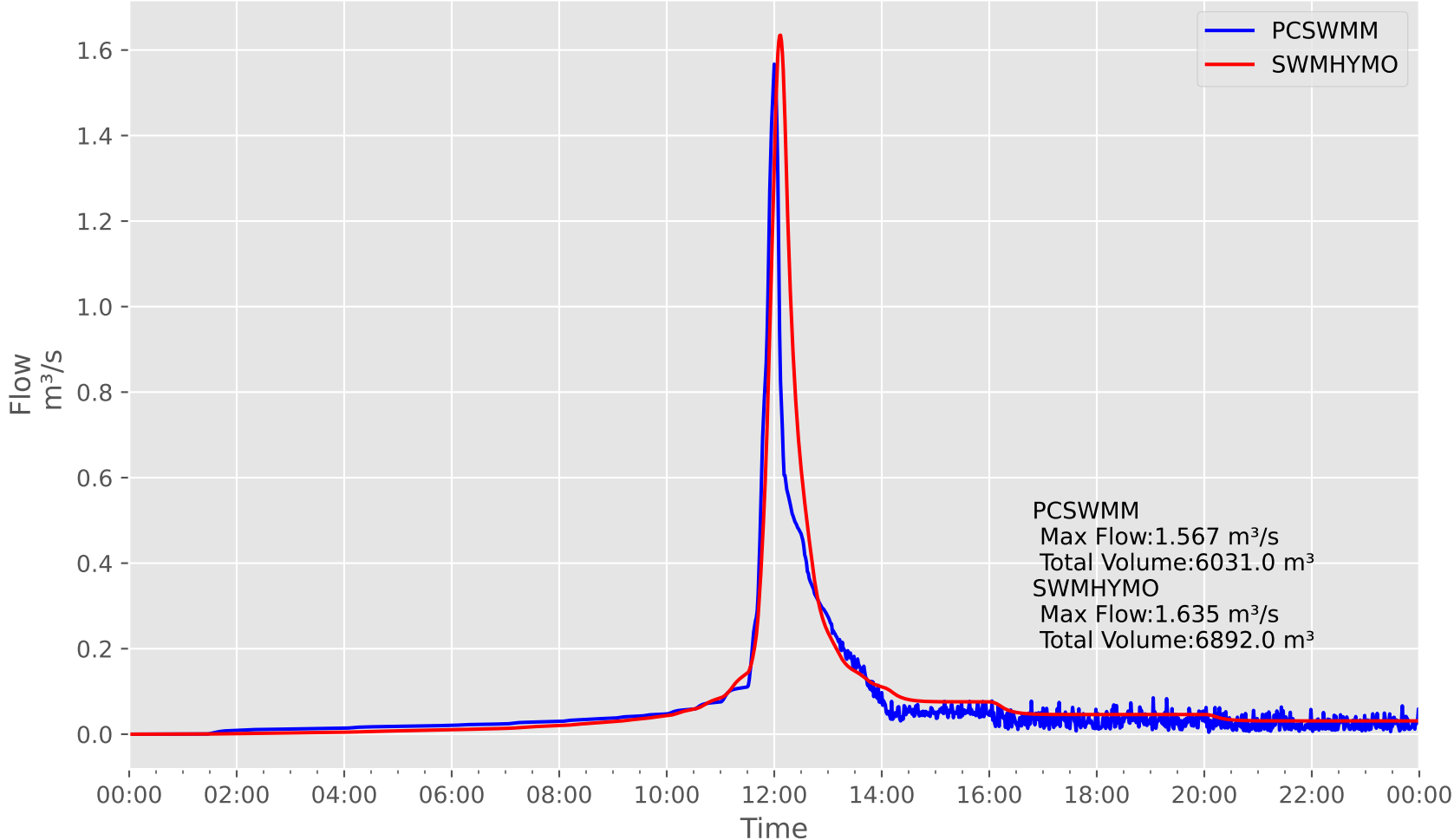
Thunder Road Partnership

6150 Thunder Road

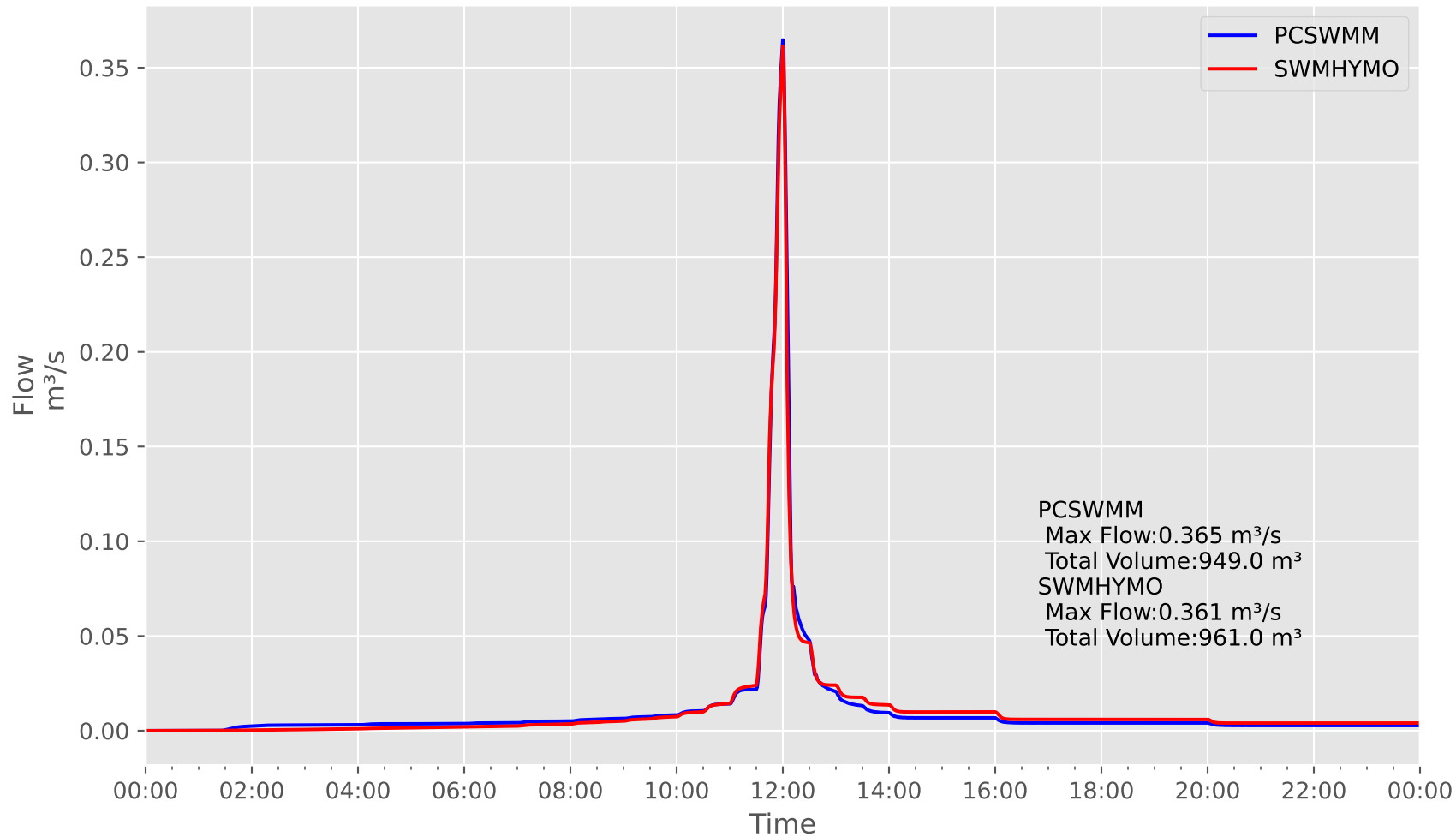
Figure C3 - Soils

|         |             |
|---------|-------------|
| PROJECT | 2120(01)-21 |
| DRAWN   | JZ          |
| DATE    | AUG 2024    |

# Pond1-100YrSCS24Hr



# Pond2-100YrSCS24Hr



```

1 20 Metric units / ID numbers OFF
2 *#*****
3 *# SWMHYMO / INPUT DATA FILE
4 *#*****
5 *# Project Name: [THUNDER ROAD] Project Number: [2128]
6 *# Date: 04-28-2021
7 *# Modeller: [J.B]
8 *# Company: JFSAinc.
9 *# License #: 2549237
10 *#*****
11 * Model Developed to assess the post development erosion/hydrologic conditions on the
12 Bear Brook
13 * tributary near 6150 Thunder Road
14 *#*****
15 START TZERO=[1967.0101], METOUT=[2], NSTORM=[0], NRUN=[1967]
16 *% [""] <--storm filename, one per line for NSTORM time
17 *%-----|-----
18 *# Ottawa International Airport - April 1st to October 31st
19 READ AES DATA AES_FILENAME=["YOW_1967_2007.123"],
20 IELEM=[123], START_DATE=[0], END_DATE=[-213]
21 *%-----|-----
22 COMPUTE API APII=[50], APIK=[0.90]/day
23 *%-----|-----
24 * DRAINAGE AREAS NORTH OF HIGHWAY
25 *%-----|-----
26 CONTINUOUS NASHYD NHYD=["NORTH-1"], DT=[5] (min), AREA=[34.701] (ha),
27 DWF=[0] (cms), CN/C=[38.1], IA=[4.67] (mm), N=[3], TP=[4.12] (hrs),
28 Continuous simulation parameters:
29 IaRECper=[6] (hrs),
30 SMIN=[-1] (mm), SMAX=[-1] (mm), SK=[0.03]/(mm),
31 InterEventTime=[12] (hrs),
32 Baseflow simulation parameters:
33 BaseFlowOption=[1], InitGWResVol=[12] (mm), GWResK=[0.95] (mm/day/mm),
34 VHydCond=[.02] (mm/hr), END=-1
35 *%-----|-----
36 CONTINUOUS NASHYD NHYD=["NORTH-2"], DT=[5] (min), AREA=[12.444] (ha),
37 DWF=[0] (cms), CN/C=[53.0], IA=[4.67] (mm), N=[3], TP=[1.29] (hrs),
38 Continuous simulation parameters:
39 IaRECper=[6] (hrs),
40 SMIN=[-1] (mm), SMAX=[-1] (mm), SK=[0.03]/(mm),
41 InterEventTime=[12] (hrs),
42 Baseflow simulation parameters:
43 BaseFlowOption=[1], InitGWResVol=[12] (mm), GWResK=[0.95] (mm/day/mm),
44 VHydCond=[.02] (mm/hr), END=-1
45 *%-----|-----
46 CONTINUOUS NASHYD NHYD=["HWY-1"], DT=[5] (min), AREA=[2.364] (ha),
47 DWF=[0] (cms), CN/C=[81.7], IA=[4.67] (mm), N=[3], TP=[1.21] (hrs),
48 Continuous simulation parameters:
49 IaRECper=[6] (hrs),
50 SMIN=[-1] (mm), SMAX=[-1] (mm), SK=[0.03]/(mm),
51 InterEventTime=[12] (hrs),
52 Baseflow simulation parameters:
53 BaseFlowOption=[1], InitGWResVol=[12] (mm), GWResK=[0.95] (mm/day/mm),
54 VHydCond=[.02] (mm/hr), END=-1
55 *%-----|-----
56 *ADD AREAS UPSTREAM OF HIGHWAY
57 ADD HYD NHYDsum=["J1"], NHYDs to add=["NORTH-1"+"NORTH-2"+"HWY-1"]
58 *%-----|-----
59 * ROUTE UPSTREAM FLOWS TO THUNDER ROAD
60 ROUTE CHANNEL NHYDout=["R1"], NHYDin=["J1"], RDT=[5] (min),
61 CHLGTH=[.478] (m), CHSLOPE=[0.44] (%), FPSLOPE=[0.44] (%),
62 SECNUM=[1], NSEG=[3]
63 (SEGROUGH, SEGDIST (m))=[0.05, 2.49, -0.035, 8.73, 0.05, 26.18] NSEG
64 times
65 (DISTANCE (m), ELEVATION (m))=[0, 76.83]
66 [1.25, 76.8]
67 [2.49, 76.64]
68 [3.74, 76.45]

```



```

68 ..... [4.99,76.22]
69 ..... [6.23,76.3]
70 ..... [7.48,76.52]
71 ..... [8.73,76.58]
72 ..... [9.97,76.61]
73 ..... [22.44,76.62]
74 ..... [23.69,76.7]
75 ..... [24.93,76.75]
76 ..... [26.18,76.85]
77 *%-----|-----|
78 * DRAINAGE AREAS AROUND HIGHWAY INTERCHANGE
79 *%-----|-----|
80 CONTINUOUS NASHYD NHYD=["INT-1"], DT=[5] (min), AREA=[4.388] (ha),
81 ..... DWF=[0] (cms), CN/C=[60.4], IA=[4.67] (mm), N=[3], TP=[1.66] (hrs),
82 ..... Continuous simulation parameters:
83 ..... IaRECper=[6] (hrs),
84 ..... SMIN=[-1] (mm), SMAX=[-1] (mm), SK=[0.03]/(mm),
85 ..... InterEventTime=[12] (hrs),
86 ..... Baseflow simulation parameters:
87 ..... BaseFlowOption=[1], InitGWResVol=[12] (mm), GWResK=[0.95] (mm/day/mm),
88 ..... VHydCond=[.02] (mm/hr), END=-1
89 *%-----|-----|
90 CONTINUOUS NASHYD NHYD=["INT-2"], DT=[5] (min), AREA=[3.61] (ha),
91 ..... DWF=[0] (cms), CN/C=[47.4], IA=[4.67] (mm), N=[3], TP=[0.95] (hrs),
92 ..... Continuous simulation parameters:
93 ..... IaRECper=[6] (hrs),
94 ..... SMIN=[-1] (mm), SMAX=[-1] (mm), SK=[0.03]/(mm),
95 ..... InterEventTime=[12] (hrs),
96 ..... Baseflow simulation parameters:
97 ..... BaseFlowOption=[1], InitGWResVol=[12] (mm), GWResK=[0.95] (mm/day/mm),
98 ..... VHydCond=[.02] (mm/hr), END=-1
99 *%-----|-----|
100 CONTINUOUS NASHYD NHYD=["A3A"], DT=[5] (min), AREA=[3.84] (ha),
101 ..... DWF=[0] (cms), CN/C=[58.4], IA=[4.67] (mm), N=[3], TP=[1.46] (hrs),
102 ..... Continuous simulation parameters:
103 ..... IaRECper=[6] (hrs),
104 ..... SMIN=[-1] (mm), SMAX=[-1] (mm), SK=[0.03]/(mm),
105 ..... InterEventTime=[12] (hrs),
106 ..... Baseflow simulation parameters:
107 ..... BaseFlowOption=[1], InitGWResVol=[12] (mm), GWResK=[0.95] (mm/day/mm),
108 ..... VHydCond=[.02] (mm/hr), END=-1
109 *%-----|-----|
110 CONTINUOUS NASHYD NHYD=["A3B"], DT=[5] (min), AREA=[5.294] (ha),
111 ..... DWF=[0] (cms), CN/C=[42.6], IA=[4.67] (mm), N=[3], TP=[1.26] (hrs),
112 ..... Continuous simulation parameters:
113 ..... IaRECper=[6] (hrs),
114 ..... SMIN=[-1] (mm), SMAX=[-1] (mm), SK=[0.03]/(mm),
115 ..... InterEventTime=[12] (hrs),
116 ..... Baseflow simulation parameters:
117 ..... BaseFlowOption=[1], InitGWResVol=[12] (mm), GWResK=[0.95] (mm/day/mm),
118 ..... VHydCond=[.02] (mm/hr), END=-1
119 *%-----|-----|
120 CONTINUOUS NASHYD NHYD=["A3C"], DT=[5] (min), AREA=[1.205] (ha),
121 ..... DWF=[0] (cms), CN/C=[37.8], IA=[4.67] (mm), N=[3], TP=[0.87] (hrs),
122 ..... Continuous simulation parameters:
123 ..... IaRECper=[6] (hrs),
124 ..... SMIN=[-1] (mm), SMAX=[-1] (mm), SK=[0.03]/(mm),
125 ..... InterEventTime=[12] (hrs),
126 ..... Baseflow simulation parameters:
127 ..... BaseFlowOption=[1], InitGWResVol=[12] (mm), GWResK=[0.95] (mm/day/mm),
128 ..... VHydCond=[.02] (mm/hr), END=-1
129 *%-----|-----|
130 *Route runoff from north site lands through road side ditch (500m @ 0.14%)
131 ROUTE CHANNEL NHYDout=["A3C-R"], NHYDin=["A3C"], RDT=[5] (min),
132 ..... CHLGTH=[500] (m), CHSLOPE=[0.14] (%), FPSLOPE=[0.14] (%),
133 ..... SECNUM=[1], NSEG=[3]
134 ..... (SEGROUGH, SEGDIST (m))=[0.05, 2.95, -0.035, 7.38, 0.05, 10.33] NSEG
..... times
135 ..... (DISTANCE (m), ELEVATION (m))=[0.00, 76.58]

```

```

136 ..... [1.48, 76.57]
137 ..... [2.95, 76.49]
138 ..... [4.43, 76.15]
139 ..... [5.90, 76.11]
140 ..... [7.38, 76.58]
141 ..... [8.85, 76.95]
142 ..... [10.33, 77.20]
143 ..... [-1, -1]
144 *%-----|-----
145 CONTINUOUS NASHYD NHYD=["INT-3"], DT=[5] (min), AREA=[5.712] (ha),
146 ..... DWF=[0] (cms), CN/C=[58.5], IA=[4.67] (mm), N=[3], TP=[0.89] (hrs),
147 ..... Continuous simulation parameters:
148 ..... IaRECper=[6] (hrs),
149 ..... SMIN=[-1] (mm), SMAX=[-1] (mm), SK=[0.03]/(mm),
150 ..... InterEventTime=[12] (hrs),
151 ..... Baseflow simulation parameters:
152 ..... BaseFlowOption=[1], InitGWResVol=[12] (mm), GWResK=[0.95] (mm/day/mm),
153 ..... VHydCond=[.02] (mm/hr), END=-1
154 *%-----|-----
155 ADD HYD NHYDsum=["J2"], NHYDs to
156 add=["R1"+"INT-1"+"INT-2"+"INT-3"+"A3A"+"A3B"+"A3C-R"]
157 *%-----|-----
158 ROUTE CHANNEL NHYDout=["R2"], NHYDin=["J2"], RDT=[5] (min),
159 ..... CHLGTH=[ 359 ] (m), CHSLOPE=[0.56] (%), FPSLOPE=[0.56] (%),
160 ..... SECNUM=[ 1 ], NSEG=[ 3 ]
161 ..... ( SEGROUGH, SEGDIST (m))=[0.05, 15.18, -0.035, 25.29, 0.05, 30.35]
162 ..... NSEG times
163 ..... ( DISTANCE (m), ELEVATION (m))=[0, 77.2]
164 ..... [1.26, 77.14]
165 ..... [2.53, 77.09]
166 ..... [6.32, 77.02]
167 ..... [7.59, 77.01]
168 ..... [8.85, 76.99]
169 ..... [11.38, 76.96]
170 ..... [13.91, 76.92]
171 ..... [15.18, 76.86]
172 ..... [16.44, 76.63]
173 ..... [17.71, 76.28]
174 ..... [18.97, 76.24]
175 ..... [20.23, 76.23]
176 ..... [21.5, 76.33]
177 ..... [22.76, 76.62]
178 ..... [24.03, 76.73]
179 ..... [25.29, 76.8]
180 ..... [27.82, 76.8]
181 ..... [29.09, 76.81]
182 ..... [30.35, 77]
183 ..... [-1, -1]
184 *%-----|-----
185 * DRAINAGE AREAS DOPWNSTREAM OF THUNDERROAD
186 *%-----|-----
187 CONTINUOUS NASHYD NHYD=["A1A"], DT=[5] (min), AREA=[21.435] (ha),
188 ..... DWF=[0] (cms), CN/C=[36.1], IA=[4.67] (mm), N=[3], TP=[1.68] (hrs),
189 ..... Continuous simulation parameters:
190 ..... IaRECper=[6] (hrs),
191 ..... SMIN=[-1] (mm), SMAX=[-1] (mm), SK=[0.03]/(mm),
192 ..... InterEventTime=[12] (hrs),
193 ..... Baseflow simulation parameters:
194 ..... BaseFlowOption=[1], InitGWResVol=[12] (mm), GWResK=[0.95] (mm/day/mm),
195 ..... VHydCond=[.02] (mm/hr), END=-1
196 *%-----|-----
197 CONTINUOUS NASHYD NHYD=["A1B"], DT=[5] (min), AREA=[4.701] (ha),
198 ..... DWF=[0] (cms), CN/C=[44.6], IA=[4.67] (mm), N=[3], TP=[1.72] (hrs),
199 ..... Continuous simulation parameters:
200 ..... IaRECper=[6] (hrs),
201 ..... SMIN=[-1] (mm), SMAX=[-1] (mm), SK=[0.03]/(mm),
202 ..... InterEventTime=[12] (hrs),
203 ..... Baseflow simulation parameters:
204 ..... BaseFlowOption=[1], InitGWResVol=[12] (mm), GWResK=[0.95] (mm/day/mm),

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203 .....VHydCond=[.02] (mm/hr), END=-1
204 *%-----|-----|
205 CONTINUOUS NASHYD .....NHYD=["A2"], DT=[5] (min), AREA=[9.144] (ha),
206 .....DWF=[0] (cms), CN/C=[68.4], IA=[4.67] (mm), N=[3], TP=[1.12] (hrs),
207 .....Continuous simulation parameters:
208 .....IaRECper=[6] (hrs),
209 .....SMIN=[-1] (mm), SMAX=[-1] (mm), SK=[0.03]/(mm),
210 .....InterEventTime=[12] (hrs),
211 .....Baseflow simulation parameters:
212 .....BaseFlowOption=[1], InitGWResVol=[12] (mm), GWResK=[0.95] (mm/day/mm),
213 .....VHydCond=[.02] (mm/hr), END=-1
214 *%-----|-----|
215 ADD HYD .....NHYDsum=["J3"], NHYDs to add=["R2"+"A1A"+"A1B"+"A2"]
216 *%-----|-----|
217 ROUTE CHANNEL .....NHYDout=["R3"], NHYDin=["J3"], RDT=[5] (min),
218 .....CHLGTH=[ 396 ] (m), CHSLOPE=[0.305] (%), FPSLOPE=[0.305] (%),
219 .....SECNUM=[ 1 ], NSEG=[ 3 ]
220 .....( SEGROUGH, SEGDIST (m))=[0.05, 20.3, -0.035, 25.43, 0.05, 43.65]
221 .....NSEG times
222 .....( DISTANCE (m), ELEVATION (m))=[0, 75.94]
223 .....[5.08, 75.73]
224 .....[10.15, 75.63]
225 .....[15.23, 75.56]
226 .....[20.3, 75.36]
227 .....[21.32, 75.15]
228 .....[22.33, 75.04]
229 .....[23.35, 74.98]
230 .....[24.36, 75.13]
231 .....[25.38, 75.21]
232 .....[30.45, 75.36]
233 .....[35.53, 75.5]
234 .....[40.61, 75.85]
235 .....[43.65, 76.04]
236 .....[-1, -1]
237 *%-----|-----|
238 CONTINUOUS NASHYD .....NHYD=["SOUTH-1"], DT=[5] (min), AREA=[20.21] (ha),
239 .....DWF=[0] (cms), CN/C=[35.5], IA=[4.67] (mm), N=[3], TP=[1.4] (hrs),
240 .....Continuous simulation parameters:
241 .....IaRECper=[6] (hrs),
242 .....SMIN=[-1] (mm), SMAX=[-1] (mm), SK=[0.03]/(mm),
243 .....InterEventTime=[12] (hrs),
244 .....Baseflow simulation parameters:
245 .....BaseFlowOption=[1], InitGWResVol=[12] (mm), GWResK=[0.95] (mm/day/mm),
246 .....VHydCond=[.02] (mm/hr), END=-1
247 *%-----|-----|
248 ADD HYD .....NHYDsum=["J4"], NHYDs to add=["R3"+"SOUTH-1"]
249 *%-----|-----|
249 ROUTE CHANNEL .....NHYDout=["R4"], NHYDin=["J4"], RDT=[5] (min),
250 .....CHLGTH=[ 482 ] (m), CHSLOPE=[0.41] (%), FPSLOPE=[0.41] (%),
251 .....SECNUM=[ 1 ], NSEG=[ 3 ]
252 .....( SEGROUGH, SEGDIST (m))=[0.05, 20.48, -0.035, 24.1, 0.05, 40.97]
253 .....NSEG times
254 .....( DISTANCE (m), ELEVATION (m))=[0.00, 75.19]
255 .....[4.82, 75.02]
256 .....[10.84, 74.46]
257 .....[20.48, 73.88]
258 .....[21.69, 73.71]
259 .....[22.89, 73.79]
260 .....[24.1, 74.07]
261 .....[25.3, 74.18]
262 .....[30.12, 74.6]
263 .....[34.94, 74.69]
264 .....[40.97, 75.14]
265 .....[-1, -1]
266 *%-----|-----|
267 CONTINUOUS NASHYD .....NHYD=["SOUTH-2"], DT=[5] (min), AREA=[11.612] (ha),
268 .....DWF=[0] (cms), CN/C=[36.7], IA=[4.67] (mm), N=[3], TP=[0.96] (hrs),
269 .....Continuous simulation parameters:
270 .....IaRECper=[6] (hrs),

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270 ..... SMIN=[-1] (mm), · SMAX=[-1] (mm), · SK=[0.03]/(mm),
271 ..... InterEventTime=[12] (hrs),
272 ..... Baseflow simulation parameters:
273 ..... BaseFlowOption=[1] ·, · InitGWResVol=[12] (mm), · GWResK=[0.95] (mm/day/mm),
274 ..... VHydCond=[.02] (mm/hr), · END=-1
275 *%-----|-----|
276 ADD HYD ..... NHYDsum=["J5"], · NHYDs to add=["R4"+"SOUTH-2"]
277 *%-----|-----|
278 ROUTE CHANNEL ..... NHYDout=["R5"], · NHYDin=["J5"], · RDT=[5] (min),
279 ..... CHLGTH=[181] (m), · CHSLOPE=[0.5] (%), · FPSLOPE=[0.5] (%),
280 ..... SECNUM=[ 1 ], · NSEG=[ 3 ]
281 ..... ( · SEGROUGH, · SEGDIST (m) )=[0.05, · 42.50, · -0.035, · 47.69, · 0.05, · 65.31]
      NSEG times
282 ..... ( · DISTANCE (m), · ELEVATION (m) )=[0.000, · 75.10]
283 ..... [10.37, · 74.34]
284 ..... [20.73, · 73.72]
285 ..... [30.06, · 73.11]
286 ..... [42.50, · 72.86]
287 ..... [45.61, · 72.59]
288 ..... [47.69, · 72.82]
289 ..... [60.13, · 73.68]
290 ..... [65.31, · 74.98]
291 ..... [-1, · -1]
292 *%-----|-----|
293 CONTINUOUS NASHYD ..... NHYD=["SOUTH-3"], · DT=[5] (min), · AREA=[7.982] (ha),
294 ..... DWF=[0] (cms), · CN/C=[42.6 ], · IA=[4.67] (mm), · N=[3], · TP=[0.89 ] (hrs),
295 ..... Continuous simulation parameters:
296 ..... IaREcper=[6] (hrs),
297 ..... SMIN=[-1] (mm), · SMAX=[-1] (mm), · SK=[0.03]/(mm),
298 ..... InterEventTime=[12] (hrs),
299 ..... Baseflow simulation parameters:
300 ..... BaseFlowOption=[1] ·, · InitGWResVol=[12] (mm), · GWResK=[0.95] (mm/day/mm),
301 ..... VHydCond=[.02] (mm/hr), · END=-1
302 *%-----|-----|
303 ADD HYD ..... NHYDsum=["J6"], · NHYDs to add=["R5"+"SOUTH-3"]
304 *%-----|-----|
305 SAVE HYD ..... NHYD=["J6"], · # OF PCYCLES=[-1], · ICASEsh=[1]
306 ..... HYD_COMMENT=["J6-Bearbrook Tributary Upstream of Thunder Road
      Crossing"]
307 *%-----|-----|
308 ROUTE CHANNEL ..... NHYDout=["R6"], · NHYDin=["J6"], · RDT=[5] (min),
309 ..... CHLGTH=[ 323 ] (m), · CHSLOPE=[0.44] (%), · FPSLOPE=[0.44] (%),
310 ..... SECNUM=[ 1 ], · NSEG=[ 3 ]
311 ..... ( · SEGROUGH, · SEGDIST (m) )=[0.05, · 20.48, · -0.035, · 24.1, · 0.05, · 40.97]
      NSEG times
312 ..... ( · DISTANCE (m), · ELEVATION (m) )=[0, 75.19]
313 ..... [4.82, 75.02]
314 ..... [10.84, 74.46]
315 ..... [20.48, 73.88]
316 ..... [21.69, 73.71]
317 ..... [22.89, 73.79]
318 ..... [24.1, 74.07]
319 ..... [25.3, 74.18]
320 ..... [30.12, 74.6]
321 ..... [34.94, 74.69]
322 ..... [40.97, 75.14]
323 ..... [-1, -1]
324 *%-----|-----|
325 CONTINUOUS NASHYD ..... NHYD=["SOUTH-4"], · DT=[5] (min), · AREA=[14.985] (ha),
326 ..... DWF=[0] (cms), · CN/C=[39.5 ], · IA=[4.67] (mm), · N=[3], · TP=[1.23 ] (hrs),
327 ..... Continuous simulation parameters:
328 ..... IaREcper=[6] (hrs),
329 ..... SMIN=[-1] (mm), · SMAX=[-1] (mm), · SK=[0.03]/(mm),
330 ..... InterEventTime=[12] (hrs),
331 ..... Baseflow simulation parameters:
332 ..... BaseFlowOption=[1] ·, · InitGWResVol=[12] (mm), · GWResK=[0.95] (mm/day/mm),
333 ..... VHydCond=[.02] (mm/hr), · END=-1
334 *%-----|-----|
335 ADD HYD ..... NHYDsum=["Total"], · NHYDs to add=["R6"+"SOUTH-4"]

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336 *%-----|-----|
337 *#=====|-----|
338 * ..... DESIGN STORMS .....
339 *#=====|-----|
340 *#####|-----|
341 *# CONTINUOUS RAINFALL DATA
342 *#####|-----|
343 *#*****|-----|
344 *# STORMS
345 *#*****|-----|
346 START ..... TZERO=[1968.0401], METOUT=[2], NSTORM=[0], NRUN=[1968]
347 *%-----|-----|
348 START ..... TZERO=[1969.0401], METOUT=[2], NSTORM=[0], NRUN=[1969]
349 *%-----|-----|
350 START ..... TZERO=[1970.0401], METOUT=[2], NSTORM=[0], NRUN=[1970]
351 *%-----|-----|
352 START ..... TZERO=[1971.0401], METOUT=[2], NSTORM=[0], NRUN=[1971]
353 *%-----|-----|
354 START ..... TZERO=[1972.0401], METOUT=[2], NSTORM=[0], NRUN=[1972]
355 *%-----|-----|
356 START ..... TZERO=[1973.0401], METOUT=[2], NSTORM=[0], NRUN=[1973]
357 *%-----|-----|
358 START ..... TZERO=[1974.0401], METOUT=[2], NSTORM=[0], NRUN=[1974]
359 *%-----|-----|
360 START ..... TZERO=[1975.0401], METOUT=[2], NSTORM=[0], NRUN=[1975]
361 *%-----|-----|
362 START ..... TZERO=[1976.0401], METOUT=[2], NSTORM=[0], NRUN=[1976]
363 *%-----|-----|
364 START ..... TZERO=[1977.0401], METOUT=[2], NSTORM=[0], NRUN=[1977]
365 *%-----|-----|
366 START ..... TZERO=[1978.0401], METOUT=[2], NSTORM=[0], NRUN=[1978]
367 *%-----|-----|
368 START ..... TZERO=[1979.0401], METOUT=[2], NSTORM=[0], NRUN=[1979]
369 *%-----|-----|
370 START ..... TZERO=[1980.0401], METOUT=[2], NSTORM=[0], NRUN=[1980]
371 *%-----|-----|
372 START ..... TZERO=[1981.0401], METOUT=[2], NSTORM=[0], NRUN=[1981]
373 *%-----|-----|
374 START ..... TZERO=[1982.0401], METOUT=[2], NSTORM=[0], NRUN=[1982]
375 *%-----|-----|
376 START ..... TZERO=[1983.0401], METOUT=[2], NSTORM=[0], NRUN=[1983]
377 *%-----|-----|
378 START ..... TZERO=[1984.0401], METOUT=[2], NSTORM=[0], NRUN=[1984]
379 *%-----|-----|
380 START ..... TZERO=[1985.0401], METOUT=[2], NSTORM=[0], NRUN=[1985]
381 *%-----|-----|
382 START ..... TZERO=[1986.0401], METOUT=[2], NSTORM=[0], NRUN=[1986]
383 *%-----|-----|
384 START ..... TZERO=[1987.0401], METOUT=[2], NSTORM=[0], NRUN=[1987]
385 *%-----|-----|
386 START ..... TZERO=[1988.0401], METOUT=[2], NSTORM=[0], NRUN=[1988]
387 *%-----|-----|
388 START ..... TZERO=[1989.0401], METOUT=[2], NSTORM=[0], NRUN=[1989]
389 *%-----|-----|
390 START ..... TZERO=[1990.0401], METOUT=[2], NSTORM=[0], NRUN=[1990]
391 *%-----|-----|
392 START ..... TZERO=[1991.0401], METOUT=[2], NSTORM=[0], NRUN=[1991]
393 *%-----|-----|
394 START ..... TZERO=[1992.0401], METOUT=[2], NSTORM=[0], NRUN=[1992]
395 *%-----|-----|
396 START ..... TZERO=[1993.0401], METOUT=[2], NSTORM=[0], NRUN=[1993]
397 *%-----|-----|
398 START ..... TZERO=[1994.0401], METOUT=[2], NSTORM=[0], NRUN=[1994]
399 *%-----|-----|
400 START ..... TZERO=[1995.0401], METOUT=[2], NSTORM=[0], NRUN=[1995]
401 *%-----|-----|
402 START ..... TZERO=[1996.0401], METOUT=[2], NSTORM=[0], NRUN=[1996]
403 *%-----|-----|
404 START ..... TZERO=[1997.0401], METOUT=[2], NSTORM=[0], NRUN=[1997]

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405 *%-----|-----|
406 START ..... TZERO=[1998.0401], METOUT=[2], NSTORM=[0], NRUN=[1998]
407 *%-----|-----|
408 START ..... TZERO=[1999.0401], METOUT=[2], NSTORM=[0], NRUN=[1999]
409 *%-----|-----|
410 START ..... TZERO=[2000.0401], METOUT=[2], NSTORM=[0], NRUN=[2000]
411 *%-----|-----|
412 START ..... TZERO=[2002.0401], METOUT=[2], NSTORM=[0], NRUN=[2002]
413 *%-----|-----|
414 START ..... TZERO=[2003.0401], METOUT=[2], NSTORM=[0], NRUN=[2003]
415 *%-----|-----|
416 START ..... TZERO=[2004.0401], METOUT=[2], NSTORM=[0], NRUN=[2004]
417 *%-----|-----|
418 START ..... TZERO=[2006.0401], METOUT=[2], NSTORM=[0], NRUN=[2006]
419 *%-----|-----|
420 START ..... TZERO=[2007.0401], METOUT=[2], NSTORM=[0], NRUN=[2007]
421 *%-----|-----|
422 FINISH
423
```

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00001 -----
00002 -----
00003 SSSSS W W M M H H Y Y M M O O 222 000 11 5555 -----
00004 S W W M M M H H Y Y M M O O 2 0 0 11 5 -----
00005 SSSSS W W M M H H Y Y M M O O 2 0 0 11 5 Ver 5.500 -----
00006 S W W M M H H Y Y M M O O 222 0 0 11 555 FEB 2013 -----
00007 SSSSS W W M M H H Y Y M M O O 2 0 0 11 5 -----
00008 -----
00009 StormWater Management Hydrologic Model 222 000 11 555 -----
00010 -----
00011 ***** SWHYND / INPUT DATA FILE *****
00012 *****
00013 ***** A single event and continuous hydrologic simulation model *****
00014 ***** based on the principles of HYMO and its successors *****
00015 ***** CTRMNO=83 and CTRMNO=89 *****
00016 *****
00017 ***** Distributed by: J.F. Sabourin and Associates Inc. *****
00018 ***** Ottawa, Ontario: (613) 856-3884 *****
00019 ***** Gatineau, Quebec: (819) 243-6858 *****
00020 ***** E-mail: jsabourin@jfa.com *****
00021 *****
00022 *****
00023 ***** Licensed user: JFSAinc. *****
00024 ***** SERIAL#:2549237 *****
00025 *****
00026 *****
00027 *****
00028 ***** PROGRAM ARRAY DIMENSIONS *****
00029 *****
00030 ***** Maximum Value for ID numbers: 31 *****
00031 ***** Max. number of rainfall points: 105408 *****
00032 ***** Max. number of flow points: 105408 *****
00033 *****
00034 ***** S U M M A R Y O U T P U T *****
00035 *****
00036 ***** RUN DATE: 2024-07-31 TIME: 16:00:00 RUN COUNTER: 008004 *****
00037 *****
00038 ***** Input file: C:\Temp\202407-TRMNO_V04.0-Pre-Cont\HYND_V04.0-Pre-Cont.dat *****
00039 ***** Output file: C:\Temp\202407-TRMNO_V04.0-Pre-Cont\HYND_V04.0-Pre-Cont.sum *****
00040 ***** Summary file: C:\Temp\202407-TRMNO_V04.0-Pre-Cont\HYND_V04.0-Pre-Cont.sum *****
00041 ***** User comments: *****
00042 *****
00043 *****
00044 *****
00045 *****
00046 *****
00047 *****
00048 *****
00049 *****
00050 *****
00051 ***** SWHYND / INPUT DATA FILE *****
00052 *****
00053 ***** Project Name: [THUNDER ROAD] Project Number: [2128] *****
00054 ***** Date: 04-28-2021 *****
00055 ***** Modeler: [J.F.B.] *****
00056 ***** Company: JFSAinc. *****
00057 ***** License #: *****
00058 *****
00059 *****
00060 *****
00061 ***** END OF RUN : 1966 *****
00062 *****
00063 *****
00064 *****
00065 *****
00066 *****
00067 *****
00068 *****
00069 *****
00070 *****
00071 ***** START *****
00072 ***** (TZERO = .00 hrs on 19670101) *****
00073 ***** (METOUT= 2 (1=imperial, 2=metric output)) *****
00074 ***** (NTRM= 0) *****
00075 ***** (NRUN= 1967) *****
00076 ***** *****
00077 ***** SWHYND / INPUT DATA FILE *****
00078 *****
00079 ***** Project Name: [THUNDER ROAD] Project Number: [2128] *****
00080 ***** Date: 04-28-2021 *****
00081 ***** Modeler: [J.F.B.] *****
00082 ***** Company: JFSAinc. *****
00083 ***** License #: 2549237 *****
00084 *****
00085 *****
00086 *****
00087 ***** Ottawa International Airport - April 1st to October 31st *****
00088 *****
00089 ***** READ AREA DATA *****
00090 ***** [Filename = YOM_1967_2007_123 ] *****
00091 ***** [Start_date = 1967.0101; End_date = 1967.0802] *****
00092 ***** [DT = 60; Units = Imperial; Metric = 4; Dryhrs = 356; PTO= 27.00] *****
00093 ***** Maximum average rainfall intensities over *****
00094 ***** 1 hr 2 hrs 3 hrs 6 hrs 12 hrs 24 hrs 36 hrs 48 hrs 72 hrs *****
00095 ***** 17.30 22.90 22.90 23.20 23.20 23.20 23.20 23.20 27.00 mm/hr *****
00096 ***** 1967025 1967025 1967025 1967025 1967025 1967025 1967025 1967025 1967025 date *****
00097 ***** *****
00098 ***** Number of rainfall events per following interval time *****
00099 ***** 1 hr 2 hrs 3 hrs 6 hrs 12 hrs 24 hrs 36 hrs 48 hrs 72 hrs *****
00100 ***** 4 4 3 3 3 3 3 3 3 *****
00101 ***** Number of events with at least the following durations *****
00102 ***** 3 hr 2 hr 3 hr 6 hr 12 hr 24 hr 36 hr 48 hr 72 hrs *****
00103 ***** 3 4 3 3 3 3 3 3 3 *****
00104 *****
00105 *****
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00358 *****
00359 *****
00360 *****

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00361 [IAREC=6.00;SMIN=141.94;SMAX=946.27;SK=.030]
00362 [InterEventTime=12.00]
00363 R1969.C0013-----D-Tmin-ID-INHYD-----ARESHA-QPEARCS-TpeakDate_hh:mm-----RvM-R-C-----DWFCMS
00364 CONTINUOUS NASHDY 5.0 01:AC 1.21 .005 1969.0819, 5:40 199.24 .399 .000
00365 [CM=21.8# 3.00;Tm=1.89]
00366 [IAREC=6.00;SMIN=179.29;SMAX=*****;SK=.030]
00367 [InterEventTime=12.00]
00368 R1969.C0014-----D-Tmin-ID-INHYD-----ARESHA-QPEARCS-TpeakDate_hh:mm-----RvM-R-C-----DWFCMS
00369 ROUTE CHANNEL -> 5.0 02:AC 1.21 .005 1969.0817, 5:40 199.24 n/a .000
00370 [RDY=5.00] out-> 5.0 01:AC-R 1.21 .002 1969.0817, 6:20 199.24 n/a .000
00371 [L/S/= 500./ /440./ /035]
00372 [Vmax=.098;Dmax=]
00373 R1969.C0015-----D-Tmin-ID-INHYD-----ARESHA-QPEARCS-TpeakDate_hh:mm-----RvM-R-C-----DWFCMS
00374 CONTINUOUS NASHDY 5.0 01:INT-3 5.71 .048 1969.0817, 5:40 200.11 .401 .000
00375 [CM=21.8# 3.00;Tm=1.89]
00376 [IAREC=6.00;SMIN=73.13;SMAX=487.55;SK=.030]
00377 [InterEventTime=12.00]
00378 R1969.C0016-----D-Tmin-ID-INHYD-----ARESHA-QPEARCS-TpeakDate_hh:mm-----RvM-R-C-----DWFCMS
00379 ADD HYD + 5.0 02:R1 49.51 .114 1969.0817, 6:25 199.60 n/a .000
00380 + 5.0 02:INT-1 4.39 .399 1969.0817, 6:25 200.22 n/a .000
00381 + 5.0 02:INT-2 3.61 .020 1969.0817, 5:45 199.39 n/a .000
00382 + 5.0 02:INT-3 5.71 .048 1969.0817, 5:40 200.11 n/a .000
00383 + 5.0 02:IA3A 3.84 .020 1969.0817, 6:15 200.11 n/a .000
00384 + 5.0 02:IA3B 5.29 .019 1969.0817, 6:05 199.41 n/a .000
00385 [Vmax=.404;Dmax=]
00386 SUM= 5.0 01:22 73.56 .230 1969.0817, 6:10 199.68 n/a .000
00387 R1969.C0017-----D-Tmin-ID-INHYD-----ARESHA-QPEARCS-TpeakDate_hh:mm-----RvM-R-C-----DWFCMS
00388 ROUTE CHANNEL -> 5.0 02:22 73.56 .230 1969.0817, 6:10 199.68 n/a .000
00389 [RDY=5.00] out-> 5.0 01:R2 73.56 .227 1969.0817, 6:15 199.68 n/a .000
00390 [L/S/= 396./ /305./ /035]
00391 [Vmax=.481;Dmax=.147]
00392 R1969.C0018-----D-Tmin-ID-INHYD-----ARESHA-QPEARCS-TpeakDate_hh:mm-----RvM-R-C-----DWFCMS
00393 CONTINUOUS NASHDY 5.0 01:IA1A 21.43 .047 1969.0817, 6:30 199.20 .399 .000
00394 [CM=36.1# 3.00;Tm=1.68]
00395 [IAREC=6.00;SMIN=194.47;SMAX=896.47;SK=.030]
00396 [InterEventTime=12.00]
00397 R1969.C0019-----D-Tmin-ID-INHYD-----ARESHA-QPEARCS-TpeakDate_hh:mm-----RvM-R-C-----DWFCMS
00398 CONTINUOUS NASHDY 5.0 01:IA1B 4.70 .013 1969.0817, 6:30 199.45 .400 .000
00399 [CM=44.6# 3.00;Tm=1.72]
00400 [IAREC=6.00;SMIN=204.20;SMAX=*****;SK=.030]
00401 [InterEventTime=12.00]
00402 R1969.C0020-----D-Tmin-ID-INHYD-----ARESHA-QPEARCS-TpeakDate_hh:mm-----RvM-R-C-----DWFCMS
00403 CONTINUOUS NASHDY 5.0 01:IA2 9.14 .085 1969.0817, 5:55 200.74 .402 .000
00404 [CM=61.4# 3.00;Tm=1.12]
00405 [IAREC=6.00;SMIN=39.84;SMAX=323.73;SK=.030]
00406 [InterEventTime=12.00]
00407 R1969.C0021-----D-Tmin-ID-INHYD-----ARESHA-QPEARCS-TpeakDate_hh:mm-----RvM-R-C-----DWFCMS
00408 ADD HYD + 5.0 02:R2 73.56 .227 1969.0817, 6:15 199.68 n/a .000
00409 + 5.0 02:IA1A 21.43 .047 1969.0817, 6:30 199.20 n/a .000
00410 ROUTE CHANNEL -> 5.0 02:IA1B 4.70 .013 1969.0817, 6:30 199.45 n/a .000
00411 + 5.0 02:IA2 9.14 .085 1969.0817, 5:55 200.74 n/a .000
00412 SUM= 5.0 01:22 108.84 .352 1969.0817, 6:30 199.66 n/a .000
00413 R1969.C0022-----D-Tmin-ID-INHYD-----ARESHA-QPEARCS-TpeakDate_hh:mm-----RvM-R-C-----DWFCMS
00414 ROUTE CHANNEL -> 5.0 02:23 108.84 .356 1969.0817, 6:15 199.66 n/a .000
00415 [RDY=5.00] out-> 5.0 01:R3 108.84 .352 1969.0817, 6:30 199.66 n/a .000
00416 [L/S/= 396./ /305./ /035]
00417 [Vmax=.404;Dmax=]
00418 R1969.C0023-----D-Tmin-ID-INHYD-----ARESHA-QPEARCS-TpeakDate_hh:mm-----RvM-R-C-----DWFCMS
00419 CONTINUOUS NASHDY 5.0 01:SOOUTH-1 20.21 .049 1969.0817, 6:10 199.16 .399 .000
00420 [CM=21.8# 3.00;Tm=1.89]
00421 [IAREC=6.00;SMIN=204.20;SMAX=*****;SK=.030]
00422 [InterEventTime=12.00]
00423 R1969.C0024-----D-Tmin-ID-INHYD-----ARESHA-QPEARCS-TpeakDate_hh:mm-----RvM-R-C-----DWFCMS
00424 ADD HYD + 5.0 02:R3 108.84 .352 1969.0817, 6:30 199.66 n/a .000
00425 + 5.0 02:IA1B 4.70 .013 1969.0817, 6:30 199.45 n/a .000
00426 SUM= 5.0 01:24 129.05 .399 1969.0817, 6:30 199.58 n/a .000
00427 R1969.C0025-----D-Tmin-ID-INHYD-----ARESHA-QPEARCS-TpeakDate_hh:mm-----RvM-R-C-----DWFCMS
00428 ROUTE CHANNEL -> 5.0 02:24 129.05 .389 1969.0817, 6:30 199.58 n/a .000
00429 [RDY=5.00] out-> 5.0 01:R4 129.05 .389 1969.0817, 6:45 199.58 n/a .000
00430 [L/S/= 482./ /410./ /035]
00431 [Vmax=.532;Dmax=.282]
00432 R1969.C0026-----D-Tmin-ID-INHYD-----ARESHA-QPEARCS-TpeakDate_hh:mm-----RvM-R-C-----DWFCMS
00433 CONTINUOUS NASHDY 5.0 01:SOOUTH-2 11.61 .041 1969.0817, 5:45 199.20 .399 .000
00434 [CM=36.1# 3.00;Tm=.96]
00435 [IAREC=6.00;SMIN=19.85;SMAX=*****;SK=.030]
00436 [InterEventTime=12.00]
00437 R1969.C0027-----D-Tmin-ID-INHYD-----ARESHA-QPEARCS-TpeakDate_hh:mm-----RvM-R-C-----DWFCMS
00438 ADD HYD + 5.0 02:R4 129.05 .389 1969.0817, 6:45 199.58 n/a .000
00439 + 5.0 02:SOOUTH-2 11.61 .041 1969.0817, 5:45 199.20 n/a .000
00440 SUM= 5.0 01:26 148.64 .433 1969.0817, 6:40 199.54 n/a .000
00441 R1969.C0028-----D-Tmin-ID-INHYD-----ARESHA-QPEARCS-TpeakDate_hh:mm-----RvM-R-C-----DWFCMS
00442 ROUTE CHANNEL -> 5.0 02:26 148.64 .433 1969.0817, 6:40 199.54 n/a .000
00443 [RDY=5.00] out-> 5.0 01:R5 148.64 .433 1969.0817, 6:45 199.55 n/a .000
00444 [L/S/= 181./ /500./ /035]
00445 [Vmax=.503;Dmax=]
00446 R1969.C0029-----D-Tmin-ID-INHYD-----ARESHA-QPEARCS-TpeakDate_hh:mm-----RvM-R-C-----DWFCMS
00447 CONTINUOUS NASHDY 5.0 01:SOOUTH-3 7.98 .039 1969.0817, 5:40 199.41 .400 .000
00448 [CM=42.6# 3.00;Tm=.89]
00449 [IAREC=6.00;SMIN=141.94;SMAX=946.27;SK=.030]
00450 [InterEventTime=12.00]
00451 R1969.C0030-----D-Tmin-ID-INHYD-----ARESHA-QPEARCS-TpeakDate_hh:mm-----RvM-R-C-----DWFCMS
00452 ADD HYD + 5.0 02:R5 148.64 .433 1969.0817, 6:40 199.54 n/a .000
00453 + 5.0 02:SOOUTH-3 7.98 .039 1969.0817, 5:40 199.41 n/a .000
00454 SUM= 5.0 01:26 148.64 .433 1969.0817, 6:40 199.54 n/a .000
00455 R1969.C0031-----D-Tmin-ID-INHYD-----ARESHA-QPEARCS-TpeakDate_hh:mm-----RvM-R-C-----DWFCMS
00456 SAVE HYD 5.0 01:26 148.64 .433 1969.0817, 6:40 199.54 n/a .000
00457 [Vmax=.156;Dmax=]
00458 remark:56-Bearbrook Tributary Upstream of Thunder Road Crossing
00459 R1969.C0032-----D-Tmin-ID-INHYD-----ARESHA-QPEARCS-TpeakDate_hh:mm-----RvM-R-C-----DWFCMS
00460 ROUTE CHANNEL -> 5.0 01:R6 148.64 .433 1969.0817, 6:40 199.54 n/a .000
00461 [RDY=5.00] out-> 5.0 01:R6 148.64 .429 1969.0817, 6:50 199.54 n/a .000
00462 [L/S/= 482./ /410./ /035]
00463 [Vmax=.555;Dmax=.287]
00464 R1969.C0033-----D-Tmin-ID-INHYD-----ARESHA-QPEARCS-TpeakDate_hh:mm-----RvM-R-C-----DWFCMS
00465 CONTINUOUS NASHDY 5.0 01:SOOUTH-4 24.60 .048 1969.0817, 6:00 199.28 .398 .000
00466 [CM=39.5# 3.00;Tm=1.23]
00467 [IAREC=6.00;SMIN=19.85;SMAX=*****;SK=.030]
00468 [InterEventTime=12.00]
00469 R1969.C0034-----D-Tmin-ID-INHYD-----ARESHA-QPEARCS-TpeakDate_hh:mm-----RvM-R-C-----DWFCMS
00470 ADD HYD + 5.0 02:R6 148.64 .433 1969.0817, 6:00 199.28 n/a .000
00471 + 5.0 02:SOOUTH-4 14.99 .048 1969.0817, 6:00 199.28 n/a .000
00472 SUM= 5.0 01:Total 163.63 .466 1969.0817, 6:45 199.52 n/a .000
00473 #####
00474 #####
00475 #####
00476 # CONTINUOUS RAINFALL DATA
00477 #####
00478 # STORMS
00479 # STORMS
00480 #####
00481 * END OF RUN : 1969
00482 #####
00483 #####
00484 #####
00485 #####
00486 #####
00487 #####
00488 #####
00489 ROW# COMMAND#
00490 R1969.C0035-----D-Tmin-ID-INHYD-----ARESHA-QPEARCS-TpeakDate_hh:mm-----RvM-R-C-----DWFCMS
00491 START [TIER0=.00 hrs on 19690401]
00492 [METOUT=2 (1=Imperial, 2=metric output)]
00493 [NFORM=0]
00494 [APRIN=1969.1]
00495 #####
00496 # SWHYDRO / INPUT DATA FILE
00497 # Project Name: [THUNDER ROAD] Project Number: [2128]
00498 # Date [04-28-2021]
00499 # Modeler [J.F.B]
00500 # Company [J.F.S.A.]
00501 # License # [2549237]
00502 #####
00503 # OCEANA International Airport - April 1st to October 31st
00504 # READ A&S DATA
00505 [Filename = YOM_1967_2007.123 ]
00506 [Start_date = 1969.0401; End_date = 1969.1031]
00507 [DT=60;min;Lang=3;6;hrs;Metric=2;29;Dy=hrs;4807;PTOT=417.80]
00508 Maximum average rainfall intensities over
00509 1 hr 2 hrs 3 hrs 6 hrs 12 hrs 24 hrs 36 hrs 48 hrs 72 hrs
00510 21.10 32.50 32.50 46.70 47.20 50.30 50.30 52.10 54.00 mm/hr
00511 1969018 1969018 1969018 1969018 1969018 1969018 1969018 1969018 1969018 date
00512 Number of rainfall events per following interevent time
00513 1 hr 2 hrs 3 hrs 6 hrs 12 hrs 24 hrs 36 hrs 48 hrs 72 hrs
00514 123 88 73 58 46 39 35 27
00515 Number of events with at least the following durations
00516 1 hr 2 hrs 3 hrs 6 hrs 12 hrs 24 hrs 36 hrs 48 hrs 72 hrs
00517 122 67 43 12 1 0 0 0 0
00518 R1969.C0036-----D-Tmin-ID-INHYD-----ARESHA-QPEARCS-TpeakDate_hh:mm-----RvM-R-C-----DWFCMS
00519 COMPLETE API
00520 [APRIN=50.00;APRKY=9500;APRKE=9956]
00521 [APRIN=1969.1;APRKY=9500;APRKE=9956]
00522 R1969.C0037-----D-Tmin-ID-INHYD-----ARESHA-QPEARCS-TpeakDate_hh:mm-----RvM-R-C-----DWFCMS
00523 CONTINUOUS NASHDY 5.0 01:SOOUTH-1 34.70 .052 1969.0819, 5:10 125.15 .300 .000
00524 [CM=21.8# 3.00;Tm=1.89]
00525 [IAREC=6.00;SMIN=168.62;SMAX=*****;SK=.030]
00526 [InterEventTime=12.00]
00527 R1969.C0038-----D-Tmin-ID-INHYD-----ARESHA-QPEARCS-TpeakDate_hh:mm-----RvM-R-C-----DWFCMS
00528 CONTINUOUS NASHDY 5.0 01:SOOUTH-2 12.44 .062 1969.0819, 3:00 125.89 .301 .000
00529 [CM=21.8# 3.00;Tm=1.89]
00530 [IAREC=6.00;SMIN=91.01;SMAX=606.70;SK=.030]
00531 [InterEventTime=12.00]
00532 R1969.C0039-----D-Tmin-ID-INHYD-----ARESHA-QPEARCS-TpeakDate_hh:mm-----RvM-R-C-----DWFCMS
00533 CONTINUOUS NASHDY 5.0 01:SOOUTH-1 2.36 .027 1969.0819, 2:55 130.88 .313 .000
00534 [CM=61.7# 3.00;Tm=1.21]

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00721 [Start_date= 1970.0401; End_date= 1970.1031]
00722 [DTE 60.0hrs; Longitude= 1281.0; Drydays= 4855; PTO= 477.00]
00723 Maximum average rainfall intensities over
00724 1 hr 2 hrs 3 hrs 6 hrs 12 hrs 24 hrs 36 hrs 48 hrs 72 hrs
00725 25.30 31.30 31.60 31.60 31.60 31.60 31.60 31.60 31.60 31.60 31.60 31.60
00726 # 1970026 1970026 1970026 1970026 1970026 1970026 1970026 1970026 1970026 1970026 1970026 1970026
00727 # 1970026 1970026 1970026 1970026 1970026 1970026 1970026 1970026 1970026 1970026 1970026 1970026
00728 Number of rainfall events per following interval time
00729 1 hr 2 hrs 3 hrs 6 hrs 12 hrs 24 hrs 36 hrs 48 hrs 72 hrs
00730 118 99 49 49 49 44 31 22 24 24
00731 Number of events with at least the following durations
00732 1 hr 2 hrs 3 hrs 6 hrs 12 hrs 24 hrs 36 hrs 48 hrs 72 hrs
00733 117 66 30 9 2 0 0 0 0 0
00734 1970:R1970:00001
00735 COMMIT API
00736 [APIIN= 50.00; APIKEY= 9000; APIKEY= 9956]
00737 [APIIN= 16.00; APIKEY= 22.19; APIIN= 2.61]
00738 1970:R1970:00004 -----D-TIME-ID-INVD-----AREA-A-FEAS-MS-TIME-HRS-----R-VM-R-C-----DWFCMS
00739 CONTINUOUS NASHYD 5.0 01:10HT-1 34.70 .054 1970.0927.1100 150.39 .315 .000
00740 [CME 42.4; N= 3.00; Tpe = 1.46]
00741 [IAREC= 6.00; SMIN=168.62; SMAX=*****; SK= .030]
00742 [InterEventTime= 12.00]
00743 1970:R1970:00005 -----D-TIME-ID-INVD-----AREA-A-FEAS-MS-TIME-HRS-----R-VM-R-C-----DWFCMS
00744 CONTINUOUS NASHYD 5.0 01:10HT-2 12.44 .083 1970.0926.2210 151.68 .317 .000
00745 [CME 42.4; N= 3.00; Tpe = 1.46]
00746 [IAREC= 6.00; SMIN= 91.01; SMAX=606.70; SK= .030]
00747 [InterEventTime= 12.00]
00748 1970:R1970:00006 -----D-TIME-ID-INVD-----AREA-A-FEAS-MS-TIME-HRS-----R-VM-R-C-----DWFCMS
00749 CONTINUOUS NASHYD 5.0 01:10HT-1 2.36 .040 1970.0926.2200 157.23 .329 .000
00750 [CME 41.1; N= 3.00; Tpe = 1.46]
00751 [IAREC= 6.00; SMIN= 25.21; SMAX=168.09; SK= .030]
00752 [InterEventTime= 12.00]
00753 1970:R1970:00007 -----D-TIME-ID-INVD-----AREA-A-FEAS-MS-TIME-HRS-----R-VM-R-C-----DWFCMS
00754 ADD HYD + 5.0 02:NORTH-1 34.70 .054 1970.0927.1100 150.39 n/a .000
00755 + 5.0 02:NORTH-2 12.44 .083 1970.0926.2210 151.68 n/a .000
00756 + 5.0 02:HWY-1 2.36 .040 1970.0926.2200 157.23 n/a .000
00757 + 5.0 02:HWY-2 1.21 .064 1970.0926.2210 151.68 n/a .000
00758 1970:R1970:00008 -----D-TIME-ID-INVD-----AREA-A-FEAS-MS-TIME-HRS-----R-VM-R-C-----DWFCMS
00759 ROUTE CHANNEL -> 5.0 02:J1 49.51 .152 1970.0926.2215 151.04 n/a .000
00760 [RDY= 5.00] out-> 5.0 02:J1 49.51 .152 1970.0926.2215 151.04 n/a .000
00761 [I/S= 478. / 440. / 035]
00762 [Vmax = 105; Dmax = 2.84]
00763 1970:R1970:00009 -----D-TIME-ID-INVD-----AREA-A-FEAS-MS-TIME-HRS-----R-VM-R-C-----DWFCMS
00764 CONTINUOUS NASHYD 5.0 01:10HT-1 4.39 .030 1970.0926.2210 152.59 .319 .000
00765 [CME 42.4; N= 3.00; Tpe = 1.46]
00766 [IAREC= 6.00; SMIN= 67.24; SMAX=448.24; SK= .030]
00767 [InterEventTime= 12.00]
00768 1970:R1970:00010 -----D-TIME-ID-INVD-----AREA-A-FEAS-MS-TIME-HRS-----R-VM-R-C-----DWFCMS
00769 CONTINUOUS NASHYD 5.0 01:10HT-2 3.61 .026 1970.0926.2145 151.11 .316 .000
00770 [CME 41.4; N= 3.00; Tpe = 1.46]
00771 [IAREC= 6.00; SMIN=115.26; SMAX=768.40; SK= .030]
00772 [InterEventTime= 12.00]
00773 1970:R1970:00011 -----D-TIME-ID-INVD-----AREA-A-FEAS-MS-TIME-HRS-----R-VM-R-C-----DWFCMS
00774 CONTINUOUS NASHYD 5.0 01:10HT-3 3.84 .027 1970.0926.2210 152.32 .319 .000
00775 [CME 42.4; N= 3.00; Tpe = 1.46]
00776 [IAREC= 6.00; SMIN= 73.13; SMAX=487.55; SK= .030]
00777 [InterEventTime= 12.00]
00778 1970:R1970:00012 -----D-TIME-ID-INVD-----AREA-A-FEAS-MS-TIME-HRS-----R-VM-R-C-----DWFCMS
00779 CONTINUOUS NASHYD 5.0 01:10HT-1 5.29 .025 1970.0926.2210 150.69 .315 .000
00780 [CME 42.4; N= 3.00; Tpe = 1.46]
00781 [IAREC= 6.00; SMIN=141.94; SMAX=946.27; SK= .030]
00782 [InterEventTime= 12.00]
00783 1970:R1970:00013 -----D-TIME-ID-INVD-----AREA-A-FEAS-MS-TIME-HRS-----R-VM-R-C-----DWFCMS
00784 CONTINUOUS NASHYD 5.0 01:10HT-2 1.21 .006 1970.0926.2145 150.29 .315 .000
00785 [CME 41.1; N= 3.00; Tpe = 1.46]
00786 [IAREC= 6.00; SMIN=179.29; SMAX=*****; SK= .030]
00787 [InterEventTime= 12.00]
00788 1970:R1970:00014 -----D-TIME-ID-INVD-----AREA-A-FEAS-MS-TIME-HRS-----R-VM-R-C-----DWFCMS
00789 ROUTE CHANNEL -> 5.0 02:J1 49.51 .152 1970.0926.2215 150.29 n/a .000
00790 [RDY= 5.00] out-> 5.0 02:J1 49.51 .152 1970.0926.2215 150.29 n/a .000
00791 [I/S= 500. / 140. / 035]
00792 [Vmax = 105; Dmax = 2.84]
00793 1970:R1970:00015 -----D-TIME-ID-INVD-----AREA-A-FEAS-MS-TIME-HRS-----R-VM-R-C-----DWFCMS
00794 CONTINUOUS NASHYD 5.0 01:10HT-3 5.71 .062 1970.0926.2145 152.32 .319 .000
00795 [CME 42.4; N= 3.00; Tpe = 1.46]
00796 [IAREC= 6.00; SMIN= 73.13; SMAX=487.55; SK= .030]
00797 [InterEventTime= 12.00]
00798 1970:R1970:00016 -----D-TIME-ID-INVD-----AREA-A-FEAS-MS-TIME-HRS-----R-VM-R-C-----DWFCMS
00799 ADD HYD + 5.0 02:J1 49.51 .148 1970.0926.2230 151.04 n/a .000
00800 + 5.0 02:INT-1 3.61 .026 1970.0926.2145 151.11 n/a .000
00801 + 5.0 02:INT-2 3.61 .026 1970.0926.2145 151.11 n/a .000
00802 + 5.0 02:INT-3 3.61 .026 1970.0926.2145 151.11 n/a .000
00803 + 5.0 02:J2A 3.84 .027 1970.0926.2210 152.32 n/a .000
00804 + 5.0 02:J2B 5.29 .025 1970.0926.2210 150.69 n/a .000
00805 + 5.0 02:J2C 1.21 .006 1970.0926.2145 150.29 n/a .000
00806 + 5.0 02:J2D 73.56 .302 1970.0926.2215 151.27 n/a .000
00807 1970:R1970:00017 -----D-TIME-ID-INVD-----AREA-A-FEAS-MS-TIME-HRS-----R-VM-R-C-----DWFCMS
00808 ROUTE CHANNEL -> 5.0 02:J2 73.56 .302 1970.0926.2215 151.27 n/a .000
00809 [RDY= 5.00] out-> 5.0 02:J2 73.56 .302 1970.0926.2215 151.27 n/a .000
00810 [I/S= 396. / 305. / 035]
00811 [Vmax = 527; Dmax = 1.67]
00812 1970:R1970:00018 -----D-TIME-ID-INVD-----AREA-A-FEAS-MS-TIME-HRS-----R-VM-R-C-----DWFCMS
00813 CONTINUOUS NASHYD 5.0 01:10HT-2 21.43 .064 1970.0926.2235 150.20 .314 .000
00814 [CME 36.1; N= 3.00; Tpe = 1.68]
00815 [IAREC= 6.00; SMIN= 191.93; SMAX=*****; SK= .030]
00816 [InterEventTime= 12.00]
00817 1970:R1970:00019 -----D-TIME-ID-INVD-----AREA-A-FEAS-MS-TIME-HRS-----R-VM-R-C-----DWFCMS
00818 CONTINUOUS NASHYD 5.0 01:10HT-1 4.70 .018 1970.0926.2235 150.79 .316 .000
00819 [CME 44.6; N= 3.00; Tpe = 1.72]
00820 [IAREC= 6.00; SMIN= 191.93; SMAX=896.47; SK= .030]
00821 [InterEventTime= 12.00]
00822 1970:R1970:00020 -----D-TIME-ID-INVD-----AREA-A-FEAS-MS-TIME-HRS-----R-VM-R-C-----DWFCMS
00823 CONTINUOUS NASHYD 5.0 01:12 9.14 .110 1970.0926.2155 153.83 .322 .000
00824 [CME 41.4; N= 3.00; Tpe = 1.42]
00825 [IAREC= 6.00; SMIN= 191.93; SMAX=323.73; SK= .030]
00826 [InterEventTime= 12.00]
00827 1970:R1970:00021 -----D-TIME-ID-INVD-----AREA-A-FEAS-MS-TIME-HRS-----R-VM-R-C-----DWFCMS
00828 ADD HYD + 5.0 02:J2 73.56 .299 1970.0926.2210 151.27 n/a .000
00829 + 5.0 02:J2A 21.43 .064 1970.0926.2235 150.20 n/a .000
00830 + 5.0 02:J2B 4.70 .018 1970.0926.2235 150.79 n/a .000
00831 + 5.0 02:J2C 9.14 .110 1970.0926.2155 153.83 n/a .000
00832 + 5.0 02:J2D 108.84 .481 1970.0926.2215 151.25 n/a .000
00833 1970:R1970:00022 -----D-TIME-ID-INVD-----AREA-A-FEAS-MS-TIME-HRS-----R-VM-R-C-----DWFCMS
00834 ROUTE CHANNEL -> 5.0 02:J2 108.84 .481 1970.0926.2215 151.25 n/a .000
00835 [RDY= 5.00] out-> 5.0 02:J2 108.84 .481 1970.0926.2215 151.25 n/a .000
00836 [I/S= 396. / 305. / 035]
00837 [Vmax = 401; Dmax = 2.93]
00838 1970:R1970:00023 -----D-TIME-ID-INVD-----AREA-A-FEAS-MS-TIME-HRS-----R-VM-R-C-----DWFCMS
00839 CONTINUOUS NASHYD 5.0 01:10HT-1 20.21 .066 1970.0926.2155 150.11 .314 .000
00840 [CME 35.1; N= 3.00; Tpe = 1.40]
00841 [IAREC= 6.00; SMIN=204.20; SMAX=*****; SK= .030]
00842 [InterEventTime= 12.00]
00843 1970:R1970:00024 -----D-TIME-ID-INVD-----AREA-A-FEAS-MS-TIME-HRS-----R-VM-R-C-----DWFCMS
00844 ADD HYD + 5.0 02:J2 108.84 .466 1970.0926.2230 151.25 n/a .000
00845 + 5.0 02:J2A 21.43 .064 1970.0926.2235 150.20 n/a .000
00846 + 5.0 02:J2B 4.70 .018 1970.0926.2235 150.79 n/a .000
00847 + 5.0 02:J2C 9.14 .110 1970.0926.2230 151.07 n/a .000
00848 1970:R1970:00025 -----D-TIME-ID-INVD-----AREA-A-FEAS-MS-TIME-HRS-----R-VM-R-C-----DWFCMS
00849 ROUTE CHANNEL -> 5.0 02:J2 129.05 .531 1970.0926.2230 151.07 n/a .000
00850 [RDY= 5.00] out-> 5.0 02:J2 129.05 .531 1970.0926.2230 151.07 n/a .000
00851 [I/S= 482. / 410. / 035]
00852 [Vmax = 566; Dmax = 3.19]
00853 1970:R1970:00026 -----D-TIME-ID-INVD-----AREA-A-FEAS-MS-TIME-HRS-----R-VM-R-C-----DWFCMS
00854 CONTINUOUS NASHYD 5.0 01:10HT-2 11.61 .055 1970.0926.2150 150.20 .314 .000
00855 [CME 36.1; N= 3.00; Tpe = .96]
00856 [IAREC= 6.00; SMIN= 191.93; SMAX=*****; SK= .030]
00857 [InterEventTime= 12.00]
00858 1970:R1970:00027 -----D-TIME-ID-INVD-----AREA-A-FEAS-MS-TIME-HRS-----R-VM-R-C-----DWFCMS
00859 ADD HYD + 5.0 02:J2 129.05 .519 1970.0926.2245 151.07 n/a .000
00860 + 5.0 02:J2A 11.61 .055 1970.0926.2150 150.20 n/a .000
00861 + 5.0 02:J2B 140.66 .402 1970.0926.2210 150.80 n/a .000
00862 1970:R1970:00028 -----D-TIME-ID-INVD-----AREA-A-FEAS-MS-TIME-HRS-----R-VM-R-C-----DWFCMS
00863 ROUTE CHANNEL -> 5.0 02:J2 140.66 .402 1970.0926.2210 150.80 n/a .000
00864 [RDY= 5.00] out-> 5.0 02:J2 140.66 .402 1970.0926.2210 150.80 n/a .000
00865 [I/S= 181. / 500. / 035]
00866 [Vmax = 534; Dmax = 2.89]
00867 1970:R1970:00029 -----D-TIME-ID-INVD-----AREA-A-FEAS-MS-TIME-HRS-----R-VM-R-C-----DWFCMS
00868 CONTINUOUS NASHYD 5.0 01:10HT-3 7.98 .051 1970.0926.2145 150.69 .315 .000
00869 [CME 42.6; N= 3.00; Tpe = .89]
00870 [IAREC= 6.00; SMIN=141.94; SMAX=946.27; SK= .030]
00871 [InterEventTime= 12.00]
00872 1970:R1970:00030 -----D-TIME-ID-INVD-----AREA-A-FEAS-MS-TIME-HRS-----R-VM-R-C-----DWFCMS
00873 ADD HYD + 5.0 02:J2 73.56 .554 1970.0926.2245 151.07 n/a .000
00874 + 5.0 02:J2A 11.61 .055 1970.0926.2150 150.20 n/a .000
00875 + 5.0 02:J2B 140.66 .402 1970.0926.2210 150.80 n/a .000
00876 1970:R1970:00031 -----D-TIME-ID-INVD-----AREA-A-FEAS-MS-TIME-HRS-----R-VM-R-C-----DWFCMS
00877 SAVE HYD + 5.0 01:J2 148.64 .583 1970.0926.2240 150.38 n/a .000
00878 [Name = J6.1970]
00879 remark J6-Beardbrook Tributary Upstream of Thunder Road Crossing
00880 1970:R1970:00032 -----D-TIME-ID-INVD-----AREA-A-FEAS-MS-TIME-HRS-----R-VM-R-C-----DWFCMS
00881 ROUTE CHANNEL -> 5.0 01:J2 148.64 .578 1970.0926.2240 150.38 n/a .000
00882 [RDY= 5.00] out-> 5.0 01:J2 148.64 .578 1970.0926.2240 150.38 n/a .000
00883 [I/S= 482. / 410. / 035]
00884 [Vmax = 595; Dmax = 3.28]
00885 1970:R1970:00033 -----D-TIME-ID-INVD-----AREA-A-FEAS-MS-TIME-HRS-----R-VM-R-C-----DWFCMS
00886 CONTINUOUS NASHYD 5.0 01:10HT-4 11.61 .036 1970.0926.2150 150.39 .315 .000
00887 [CME 35.1; N= 3.00; Tpe = 1.23]
00888 [IAREC= 6.00; SMIN= 191.93; SMAX=*****; SK= .030]
00889 [InterEventTime= 12.00]
00890 1970:R1970:00034 -----D-TIME-ID-INVD-----AREA-A-FEAS-MS-TIME-HRS-----R-VM-R-C-----DWFCMS
00891 ADD HYD + 5.0 02:J2A 129.05 .378 1970.0926.2245 151.07 n/a .000
00892 + 5.0 02:J2B 11.61 .036 1970.0926.2150 150.39 n/a .000
00893 + 5.0 02:J2C 140.66 .402 1970.0926.2210 150.80 n/a .000
00894 # *****
00895 # *****
00896 # *****
00897 # *****
00898 # *****
00899 # *****
00900 # *****

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00901 ** END OF RUN : 1970
00902
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00904 *****
00905 *****
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01081 R1971C0003 -----DtnIn-D-INVDY-----AREAA-QFEARCS-TpeakDate_hh:mm-----RvM-R-C-----DWFCMS
01082 ADD HYD + 5.0 02:50M-1 34.70 .125 1972.0808 .4130 304.41 n/a .000
01083 SIM# + 5.0 02:50M-1 34.70 .125 1972.0808 .4130 304.41 n/a .000
01084 # [I/S/N= 500 / 1407 / 035]
01085 R1971C0003 -----DtnIn-D-INVDY-----AREAA-QFEARCS-TpeakDate_hh:mm-----RvM-R-C-----DWFCMS
01086 SAVE HYD 5.0 01:16 148.64 .422 1971.0810.1710 155.11 n/a .000
01087 #####
01088 remark:J6-BearBrook Tributary Upstream of Thunder Road Crossing
01089 R1971C0003 -----DtnIn-D-INVDY-----AREAA-QFEARCS-TpeakDate_hh:mm-----RvM-R-C-----DWFCMS
01090 ROUTE CHANNEL -> 5.0 02:16 148.64 .419 1971.0810.1710 155.11 n/a .000
01091 # [RD= 5.0] out<- 5.0 01:16 148.64 .419 1971.0810.1710 155.11 n/a .000
01092 # [I/S/N= 500 / 1407 / 035]
01093 # (Vmax = 553;Dmax= .284)
01094 R1971C0003 -----DtnIn-D-INVDY-----AREAA-QFEARCS-TpeakDate_hh:mm-----RvM-R-C-----DWFCMS
01095 CONTINUOUS NASHYD 5.0 01:50M-4 34.70 .125 1972.0808 .4130 304.41 422 .000
01096 # [CN= 39.5; N= 3.00; T= 1.23]
01097 # [IAREC= 6.0; SMIN=16.62; SMAX=*****; SK= .030]
01098 # [InterEventTime= 12.00]
01099 R1971C0004 -----DtnIn-D-INVDY-----AREAA-QFEARCS-TpeakDate_hh:mm-----RvM-R-C-----DWFCMS
01100 ADD HYD + 5.0 02:50M-4 14.99 .044 1971.0810.1635 154.97 n/a .000
01101 SIM# + 5.0 02:50M-4 14.99 .044 1971.0810.1635 154.97 n/a .000
01102 # [I/S/N= 500 / 1407 / 035]
01103 #####
01104 #####
01105 # CONTINUOUS RAINFALL DATA
01107 #####
01108 #####
01109 # STORMS
01110 # [IAREC= 6.0; SMIN=141.94; SMAX=946.27; SK= .030]
01111 # [InterEventTime= 12.00]
01112 ** END OF RUN : 1971
01113 #####
01114 #####
01115 #####
01116 #####
01117 #####
01118 #####
01119 RUN#COMMAND#
01120 START
01121 # [ITER= .00 hrs on 19720401]
01122 # [METOUT= 2 (Imperial, 2-metric output)]
01123 # [NFORM= 0]
01124 #####
01125 #####
01126 #####
01127 # SWHYD / SWUT DATA #1.0 4.39 .096 1972.0808 .010 306.73 n/a .000
01128 #####
01129 # Project Name: [THUNDER ROAD] Project Number: [2128]
01130 # Date : 04-29-2021
01131 # Modeler : [J.B]
01132 # Company : J.F.S.A.
01133 # License # : 2549237
01134 #####
01135 #####
01136 #####
01137 # Ottawa International Airport - April 1st to October 31st
01138 R1972C0002 -----DtnIn-D-INVDY-----AREAA-QFEARCS-TpeakDate_hh:mm-----RvM-R-C-----DWFCMS
01139 READ ARE DATA
01140 # [Filename = YOM_1967_2007.123 ]
01141 # [Start_date= 1972.0401; End_date= 1972.1031]
01142 # [DTE= 60; Length= 19720808; Medic= 434; Dryhrs= 4702; PTO= 722.10]
01143 #####
01144 #####
01145 #####
01146 #####
01147 #####
01148 #####
01149 #####
01150 #####
01151 #####
01152 #####
01153 #####
01154 # [IAREC= 6.0; SMIN=16.62; SMAX=*****; SK= .030]
01155 # [InterEventTime= 12.00]
01156 #####
01157 #####
01158 R1972C0004 -----DtnIn-D-INVDY-----AREAA-QFEARCS-TpeakDate_hh:mm-----RvM-R-C-----DWFCMS
01159 CONTINUOUS NASHYD 5.0 01:50M-1 34.70 .125 1972.0808 .4130 304.41 422 .000
01160 # [CN= 41.4; N= 3.00; T= 1.46]
01161 # [IAREC= 6.0; SMIN=16.62; SMAX=*****; SK= .030]
01162 # [InterEventTime= 12.00]
01163 #####
01164 #####
01165 #####
01166 #####
01167 #####
01168 R1972C0005 -----DtnIn-D-INVDY-----AREAA-QFEARCS-TpeakDate_hh:mm-----RvM-R-C-----DWFCMS
01169 CONTINUOUS NASHYD 5.0 01:50M-2 12.44 .130 1972.0807.2355 305.77 423 .000
01170 # [CN= 42.0; N= 3.00; T= 1.46]
01171 # [IAREC= 6.0; SMIN= 91.01; SMAX=606.70; SK= .030]
01172 # [InterEventTime= 12.00]
01173 #####
01174 #####
01175 R1972C0006 -----DtnIn-D-INVDY-----AREAA-QFEARCS-TpeakDate_hh:mm-----RvM-R-C-----DWFCMS
01176 CONTINUOUS NASHYD 5.0 01:50M-1 2.36 .055 1972.0807.2350 312.29 432 .000
01177 # [CN= 41.7; N= 3.00; T= 1.46]
01178 # [IAREC= 6.0; SMIN= 25.21; SMAX=168.09; SK= .030]
01179 # [InterEventTime= 12.00]
01180 #####
01181 #####
01182 #####
01183 #####
01184 #####
01185 #####
01186 #####
01187 #####
01188 R1972C0007 -----DtnIn-D-INVDY-----AREAA-QFEARCS-TpeakDate_hh:mm-----RvM-R-C-----DWFCMS
01189 ADD HYD + 5.0 02:50M-1 34.70 .125 1972.0808 .4130 304.41 n/a .000
01190 SIM# + 5.0 02:50M-1 34.70 .125 1972.0808 .4130 304.41 n/a .000
01191 # [I/S/N= 500 / 1407 / 035]
01192 # (Vmax = 497;Dmax= .284)
01193 R1972C0008 -----DtnIn-D-INVDY-----AREAA-QFEARCS-TpeakDate_hh:mm-----RvM-R-C-----DWFCMS
01194 ROUTE CHANNEL -> 5.0 02:21 49.51 .223 1972.0808 .010 305.13 n/a .000
01195 # [RD= 5.0] out<- 5.0 01:21 49.51 .223 1972.0808 .010 305.13 n/a .000
01196 # [I/S/N= 478 / 1407 / 035]
01197 # (Vmax = 497;Dmax= .284)
01198 R1972C0009 -----DtnIn-D-INVDY-----AREAA-QFEARCS-TpeakDate_hh:mm-----RvM-R-C-----DWFCMS
01199 CONTINUOUS NASHYD 5.0 01:50M-1 4.39 .046 1972.0808 .010 306.73 425 .000
01200 # [CN= 41.4; N= 3.00; T= 1.46]
01201 # [IAREC= 6.0; SMIN= 67.24; SMAX=448.24; SK= .030]
01202 # [InterEventTime= 12.00]
01203 #####
01204 #####
01205 R1972C0010 -----DtnIn-D-INVDY-----AREAA-QFEARCS-TpeakDate_hh:mm-----RvM-R-C-----DWFCMS
01206 CONTINUOUS NASHYD 5.0 01:50M-2 3.61 .040 1972.0807.2340 305.17 423 .000
01207 # [CN= 42.4; N= 3.00; T= 1.46]
01208 # [IAREC= 6.0; SMIN=15.26; SMAX=768.40; SK= .030]
01209 # [InterEventTime= 12.00]
01210 #####
01211 #####
01212 R1972C0011 -----DtnIn-D-INVDY-----AREAA-QFEARCS-TpeakDate_hh:mm-----RvM-R-C-----DWFCMS
01213 CONTINUOUS NASHYD 5.0 01:50M-1 3.84 .042 1972.0808 .010 306.44 424 .000
01214 # [CN= 42.4; N= 3.00; T= 1.46]
01215 # [IAREC= 6.0; SMIN= 73.13; SMAX=487.55; SK= .030]
01216 # [InterEventTime= 12.00]
01217 #####
01218 #####
01219 R1972C0012 -----DtnIn-D-INVDY-----AREAA-QFEARCS-TpeakDate_hh:mm-----RvM-R-C-----DWFCMS
01220 CONTINUOUS NASHYD 5.0 01:50M-1 5.29 .049 1972.0807.2355 304.73 424 .000
01221 # [CN= 41.4; N= 3.00; T= 1.46]
01222 # [IAREC= 6.0; SMIN=141.94; SMAX=946.27; SK= .030]
01223 # [InterEventTime= 12.00]
01224 #####
01225 #####
01226 #####
01227 R1972C0013 -----DtnIn-D-INVDY-----AREAA-QFEARCS-TpeakDate_hh:mm-----RvM-R-C-----DWFCMS
01228 CONTINUOUS NASHYD 5.0 01:50M-1 1.21 .010 1972.0807.2335 304.31 421 .000
01229 # [CN= 38.4; N= 3.00; T= 1.46]
01230 # [IAREC= 6.0; SMIN=179.29; SMAX=*****; SK= .030]
01231 # [InterEventTime= 12.00]
01232 #####
01233 #####
01234 R1972C0014 -----DtnIn-D-INVDY-----AREAA-QFEARCS-TpeakDate_hh:mm-----RvM-R-C-----DWFCMS
01235 CONTINUOUS NASHYD 5.0 01:50M-1 1.21 .010 1972.0807.2335 304.31 n/a .000
01236 # [RD= 5.0] out<- 5.0 01:16 148.64 .419 1971.0810.1710 155.11 n/a .000
01237 # [I/S/N= 500 / 1407 / 035]
01238 # (Vmax = 126;Dmax= .066)
01239 R1972C0015 -----DtnIn-D-INVDY-----AREAA-QFEARCS-TpeakDate_hh:mm-----RvM-R-C-----DWFCMS
01240 CONTINUOUS NASHYD 5.0 01:50M-3 5.71 .093 1972.0807.2335 306.44 424 .000
01241 # [CN= 41.4; N= 3.00; T= 1.46]
01242 # [IAREC= 6.0; SMIN= 73.13; SMAX=487.55; SK= .030]
01243 # [InterEventTime= 12.00]
01244 #####
01245 #####
01246 #####
01247 R1972C0016 -----DtnIn-D-INVDY-----AREAA-QFEARCS-TpeakDate_hh:mm-----RvM-R-C-----DWFCMS
01248 ADD HYD + 5.0 02:50M-1 49.51 .229 1972.0808 .010 305.13 n/a .000
01249 SIM# + 5.0 02:50M-1 49.51 .229 1972.0808 .010 305.13 n/a .000
01250 # [I/S/N= 500 / 1407 / 035]
01251 # (Vmax = 462;Dmax= .284)
01252 R1972C0017 -----DtnIn-D-INVDY-----AREAA-QFEARCS-TpeakDate_hh:mm-----RvM-R-C-----DWFCMS
01253 CONTINUOUS NASHYD 5.0 01:50M-1 2.36 .055 1972.0807.2350 312.29 n/a .000
01254 # [CN= 41.4; N= 3.00; T= 1.46]
01255 # [IAREC= 6.0; SMIN= 15.26; SMAX=768.40; SK= .030]
01256 # [InterEventTime= 12.00]
01257 #####
01258 #####
01259 R1972C0018 -----DtnIn-D-INVDY-----AREAA-QFEARCS-TpeakDate_hh:mm-----RvM-R-C-----DWFCMS
01260 CONTINUOUS NASHYD 5.0 01:50M-1 20.21 .107 1972.0808 .010 304.12 421 .000
01261 # [CN= 39.5; N= 3.00; T= 1.46]
01262 # [IAREC= 6.0; SMIN=204.20; SMAX=*****; SK= .030]
01263 # [InterEventTime= 12.00]
01264 #####
01265 #####
01266 #####
01267 #####
01268 #####
01269 #####
01270 #####
01271 #####
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01290 #####
01291 R1972C0019 -----DtnIn-D-INVDY-----AREAA-QFEARCS-TpeakDate_hh:mm-----RvM-R-C-----DWFCMS
01292 ADD HYD + 5.0 02:50M-3 7.98 .080 1972.0807.2335 304.73 n/a .000
01293 SIM# + 5.0 02:50M-3 7.98 .080 1972.0807.2335 304.73 n/a .000
01294 # [I/S/N= 500 / 1407 / 035]
01295 # (Vmax = 511;Dmax= .284)
01296 R1972C0020 -----DtnIn-D-INVDY-----AREAA-QFEARCS-TpeakDate_hh:mm-----RvM-R-C-----DWFCMS
01297 CONTINUOUS NASHYD 5.0 01:50M-4 14.66 .085 1972.0808 .010 305.06 n/a .000
01298 # [CN= 39.5; N= 3.00; T= 1.23]
01299 # [IAREC= 6.0; SMIN=181.07; SMAX=*****; SK= .030]
01300 # [InterEventTime= 12.00]
01301 #####
01302 #####
01303 #####
01304 #####
01305 #####
01306 #####
01307 #####
01308 #####
01309 R1972C0021 -----DtnIn-D-INVDY-----AREAA-QFEARCS-TpeakDate_hh:mm-----RvM-R-C-----DWFCMS
01310 CONTINUOUS NASHYD 5.0 01:50M-2 11.61 .087 1972.0807.2340 304.21 421 .000
01311 # [CN= 36.7; N= 3.00; T= .96]
01312 # [IAREC= 6.0; SMIN=181.07; SMAX=*****; SK= .030]
01313 # [InterEventTime= 12.00]
01314 #####
01315 #####
01316 #####
01317 #####
01318 #####
01319 #####
01320 #####
01321 #####
01322 #####
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01441 [Vmax =.562;Dmax=.123]
01442 R1974IC0018-----Dtain-ID:INVD-----AREHA-GFEARCS=PeakDate_hh:mm-----RvMn-R.C-----DWFCMS
01443 CONTINUOUS NASHDY 5.0 01:AI1A 21.43 .076 1973.0808.2125 262.89 425 .000
01444 [CM 36.1; N= 3.00; Tm= 1.68]
01445 [IAREC 6.00; SMIN=181.9; SMAX=946.27; SK= .030]
01446 [InterEventTime= 12.00]
01447 R1974IC0019-----Dtain-ID:INVD-----AREHA-GFEARCS=PeakDate_hh:mm-----RvMn-R.C-----DWFCMS
01448 CONTINUOUS NASHDY 5.0 01:AI1B 4.70 .022 1973.0808.2130 263.43 426 .000
01449 [CM 44.6; N= 3.00; Tm= 1.72]
01450 [IAREC 6.00; SMIN=181.9; SMAX=896.47; SK= .030]
01451 [InterEventTime= 12.00]
01452 R1974IC0020-----Dtain-ID:INVD-----AREHA-GFEARCS=PeakDate_hh:mm-----RvMn-R.C-----DWFCMS
01453 CONTINUOUS NASHDY 5.0 01:AI2 9.14 .130 1973.0808.20150 266.34 430 .000
01454 [CM 36.1; N= 3.00; Tm= 1.68]
01455 [IAREC 6.00; SMIN=181.9; SMAX=323.73; SK= .030]
01456 [InterEventTime= 12.00]
01457 R1974IC0021-----Dtain-ID:INVD-----AREHA-GFEARCS=PeakDate_hh:mm-----RvMn-R.C-----DWFCMS
01458 ADD HYD + 5.0 02:R2 73.56 .357 1973.0808.2115 263.85 n/a .000
01459 [IAREC 6.00; SMIN=181.9; SMAX=946.27; SK= .030]
01460 [InterEventTime= 12.00]
01461 ROUTE CHANNEL + 5.0 02:AI1B 21.43 .076 1973.0808.2125 262.89 n/a .000
01462 [IAREC 6.00; SMIN=181.9; SMAX=946.27; SK= .030]
01463 [IAREC 6.00; SMIN=181.9; SMAX=946.27; SK= .030]
01464 [IAREC 6.00; SMIN=181.9; SMAX=946.27; SK= .030]
01465 [IAREC 6.00; SMIN=181.9; SMAX=946.27; SK= .030]
01466 [IAREC 6.00; SMIN=181.9; SMAX=946.27; SK= .030]
01467 [IAREC 6.00; SMIN=181.9; SMAX=946.27; SK= .030]
01468 [IAREC 6.00; SMIN=181.9; SMAX=946.27; SK= .030]
01469 [IAREC 6.00; SMIN=181.9; SMAX=946.27; SK= .030]
01470 [IAREC 6.00; SMIN=181.9; SMAX=946.27; SK= .030]
01471 [IAREC 6.00; SMIN=204.20; SMAX=946.27; SK= .030]
01472 [InterEventTime= 12.00]
01473 R1974IC0024-----Dtain-ID:INVD-----AREHA-GFEARCS=PeakDate_hh:mm-----RvMn-R.C-----DWFCMS
01474 CONTINUOUS NASHDY 5.0 01:AI1A 21.43 .076 1973.0808.2125 263.84 n/a .000
01475 ADD HYD + 5.0 02:R3 108.84 .558 1973.0808.2125 263.84 n/a .000
01476 [IAREC 6.00; SMIN=181.9; SMAX=946.27; SK= .030]
01477 [IAREC 6.00; SMIN=181.9; SMAX=946.27; SK= .030]
01478 [IAREC 6.00; SMIN=181.9; SMAX=946.27; SK= .030]
01479 [IAREC 6.00; SMIN=181.9; SMAX=946.27; SK= .030]
01480 [IAREC 6.00; SMIN=181.9; SMAX=946.27; SK= .030]
01481 [IAREC 6.00; SMIN=181.9; SMAX=946.27; SK= .030]
01482 R1974IC0025-----Dtain-ID:INVD-----AREHA-GFEARCS=PeakDate_hh:mm-----RvMn-R.C-----DWFCMS
01483 CONTINUOUS NASHDY 5.0 01:AI1B 4.70 .022 1973.0808.2130 263.43 426 .000
01484 [CM 44.6; N= 3.00; Tm= 1.72]
01485 [IAREC 6.00; SMIN=181.9; SMAX=896.47; SK= .030]
01486 [InterEventTime= 12.00]
01487 R1974IC0026-----Dtain-ID:INVD-----AREHA-GFEARCS=PeakDate_hh:mm-----RvMn-R.C-----DWFCMS
01488 CONTINUOUS NASHDY 5.0 01:SOOUTH-1 20.21 .078 1973.0808.2110 262.80 425 .000
01489 [CM 36.1; N= 3.00; Tm= 1.68]
01490 [IAREC 6.00; SMIN=181.9; SMAX=323.73; SK= .030]
01491 [InterEventTime= 12.00]
01492 R1974IC0027-----Dtain-ID:INVD-----AREHA-GFEARCS=PeakDate_hh:mm-----RvMn-R.C-----DWFCMS
01493 ADD HYD + 5.0 02:R4 129.05 .622 1973.0808.2135 263.67 n/a .000
01494 [IAREC 6.00; SMIN=181.9; SMAX=946.27; SK= .030]
01495 [InterEventTime= 12.00]
01496 ROUTE CHANNEL -> 5.0 02:AI1A 21.43 .076 1973.0808.2125 262.89 n/a .000
01497 [IAREC 6.00; SMIN=181.9; SMAX=946.27; SK= .030]
01498 [IAREC 6.00; SMIN=181.9; SMAX=946.27; SK= .030]
01499 [IAREC 6.00; SMIN=181.9; SMAX=946.27; SK= .030]
01500 [IAREC 6.00; SMIN=181.9; SMAX=946.27; SK= .030]
01501 [IAREC 6.00; SMIN=181.9; SMAX=946.27; SK= .030]
01502 [IAREC 6.00; SMIN=181.9; SMAX=946.27; SK= .030]
01503 [IAREC 6.00; SMIN=181.9; SMAX=946.27; SK= .030]
01504 [IAREC 6.00; SMIN=181.9; SMAX=946.27; SK= .030]
01505 [IAREC 6.00; SMIN=181.9; SMAX=946.27; SK= .030]
01506 [IAREC 6.00; SMIN=181.9; SMAX=946.27; SK= .030]
01507 [IAREC 6.00; SMIN=181.9; SMAX=946.27; SK= .030]
01508 [IAREC 6.00; SMIN=181.9; SMAX=946.27; SK= .030]
01509 [IAREC 6.00; SMIN=181.9; SMAX=946.27; SK= .030]
01510 [IAREC 6.00; SMIN=181.9; SMAX=946.27; SK= .030]
01511 [IAREC 6.00; SMIN=181.9; SMAX=946.27; SK= .030]
01512 [IAREC 6.00; SMIN=181.9; SMAX=946.27; SK= .030]
01513 [IAREC 6.00; SMIN=181.9; SMAX=946.27; SK= .030]
01514 [IAREC 6.00; SMIN=181.9; SMAX=946.27; SK= .030]
01515 [IAREC 6.00; SMIN=181.9; SMAX=946.27; SK= .030]
01516 [IAREC 6.00; SMIN=181.9; SMAX=946.27; SK= .030]
01517 [IAREC 6.00; SMIN=181.9; SMAX=946.27; SK= .030]
01518 [IAREC 6.00; SMIN=181.9; SMAX=946.27; SK= .030]
01519 [IAREC 6.00; SMIN=181.9; SMAX=946.27; SK= .030]
01520 [IAREC 6.00; SMIN=181.9; SMAX=946.27; SK= .030]
01521 [IAREC 6.00; SMIN=181.9; SMAX=946.27; SK= .030]
01522 [IAREC 6.00; SMIN=181.9; SMAX=946.27; SK= .030]
01523 [IAREC 6.00; SMIN=181.9; SMAX=946.27; SK= .030]
01524 [IAREC 6.00; SMIN=181.9; SMAX=946.27; SK= .030]
01525 [IAREC 6.00; SMIN=181.9; SMAX=946.27; SK= .030]
01526 # CONTINUOUS RAINFALL DATA
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02521 [IAR#C 6.00; SMIN=204.20; DMAX=*****; SK# 030]
02522 [INTERVENTIME= 12.00]
02523 R1978/C00024 -----D-TM=ID-INHYD-----AREHA-A-PEAKS-TPeakDate_hh:mm-----RvM-R-C-----DWFCMS
02524 ADD HYD + 5.0 02:00R1 108.84 .417 1978.0618.1830 166.64 n/a .000
02525 [IAR#C 6.00; SMIN=181.7; DMAX=*****; SK# 030]
02526 SUM = 5.0 02:00R1 129.05 .473 1978.0618.1830 166.61 n/a .000
02527 R1978/C00025 -----D-TM=ID-INHYD-----AREHA-A-PEAKS-TPeakDate_hh:mm-----RvM-R-C-----DWFCMS
02528 ROUTE CHANNEL -> 5.0 02:04 129.05 .473 1978.0618.1830 166.61 n/a .000
02529 [RDY= 5.00] out-> 5.0 01:84 129.05 .461 1978.0618.1830 166.61 n/a .000
02530 [I/S/n= 482 / 447 / 035]
02531 [Vmax = 550; Dmax = 309]
02532 R1978/C00026 -----D-TM=ID-INHYD-----AREHA-A-PEAKS-TPeakDate_hh:mm-----RvM-R-C-----DWFCMS
02533 CONTINUOUS NASHDY 5.0 01:00RTH-2 11.61 .049 1978.0618.1745 166.43 326 .000
02534 [CM= 36.7; N= 3.00; Tm= .96]
02535 [IAR#C 6.00; SMIN=141.94; DMAX=946.27; SK# 030]
02536 INTERVENTIME= 12.00]
02537 R1978/C00027 -----D-TM=ID-INHYD-----AREHA-A-PEAKS-TPeakDate_hh:mm-----RvM-R-C-----DWFCMS
02538 ADD HYD + 5.0 02:04 129.05 .461 1978.0618.1840 166.61 n/a .000
02539 + 5.0 02:00RTH-2 11.61 .049 1978.0618.1745 166.43 n/a .000
02540 SUM = 5.0 02:04 140.66 .491 1978.0618.1840 166.59 n/a .000
02541 R1978/C00028 -----D-TM=ID-INHYD-----AREHA-A-PEAKS-TPeakDate_hh:mm-----RvM-R-C-----DWFCMS
02542 ROUTE CHANNEL -> 5.0 02:05 140.66 .491 1978.0618.1840 166.59 n/a .000
02543 [RDY= 5.00] out-> 5.0 01:85 140.66 .490 1978.0618.1840 166.59 n/a .000
02544 [I/S/n= 181 / 500 / 035]
02545 [Vmax = 550; Dmax = 309]
02546 R1978/C00029 -----D-TM=ID-INHYD-----AREHA-A-PEAKS-TPeakDate_hh:mm-----RvM-R-C-----DWFCMS
02547 CONTINUOUS NASHDY 5.0 01:00RTH-3 7.98 .047 1978.0618.1745 166.32 326 .000
02548 [CM= 42.6; N= 3.00; Tm= .89]
02549 [IAR#C 6.00; SMIN=141.94; DMAX=946.27; SK# 030]
02550 INTERVENTIME= 12.00]
02551 R1978/C00030 -----D-TM=ID-INHYD-----AREHA-A-PEAKS-TPeakDate_hh:mm-----RvM-R-C-----DWFCMS
02552 ADD HYD + 5.0 02:00RTH-3 7.98 .047 1978.0618.1745 166.32 n/a .000
02553 + 5.0 02:00RTH-3 7.98 .047 1978.0618.1745 166.32 n/a .000
02554 SUM = 5.0 02:06 148.64 .514 1978.0618.1840 166.59 n/a .000
02555 R1978/C00031 -----D-TM=ID-INHYD-----AREHA-A-PEAKS-TPeakDate_hh:mm-----RvM-R-C-----DWFCMS
02556 SAVE HYD 5.0 01:26 148.64 .514 1978.0618.1840 166.59 n/a .000
02557 [IAR#C 6.00; SMIN=141.94; DMAX=946.27; SK# 030]
02558 [I/S/n= 136 / 1978]
02559 remark:JF-Bearbrook Tributary Upstream of Thunder Road Crossing
02560 R1978/C00032 -----D-TM=ID-INHYD-----AREHA-A-PEAKS-TPeakDate_hh:mm-----RvM-R-C-----DWFCMS
02561 ROUTE CHANNEL -> 5.0 01:86 148.64 .509 1978.0618.1850 166.59 n/a .000
02562 [RDY= 5.00] out-> 5.0 01:86 148.64 .509 1978.0618.1850 166.59 n/a .000
02563 [I/S/n= 323 / 447 / 035]
02564 [Vmax = 574; Dmax = 309]
02565 R1978/C00033 -----D-TM=ID-INHYD-----AREHA-A-PEAKS-TPeakDate_hh:mm-----RvM-R-C-----DWFCMS
02566 CONTINUOUS NASHDY 5.0 01:00RTH-4 14.75 .057 1978.0618.1805 166.47 326 .000
02567 [CM= 39.5; N= 3.00; Tm= 1.23]
02568 [IAR#C 6.00; SMIN=141.94; DMAX=946.27; SK# 030]
02569 INTERVENTIME= 12.00]
02570 R1978/C00034 -----D-TM=ID-INHYD-----AREHA-A-PEAKS-TPeakDate_hh:mm-----RvM-R-C-----DWFCMS
02571 ADD HYD + 5.0 02:00RTH-4 14.99 .057 1978.0618.1805 166.47 n/a .000
02572 + 5.0 02:00RTH-4 14.99 .057 1978.0618.1805 166.47 n/a .000
02573 SUM = 5.0 02:05 163.63 .095 1978.0618.1845 166.58 n/a .000
02574 [RDY= 5.00] out-> 5.0 01:85 140.66 .490 1978.0618.1840 166.59 n/a .000
02575 [I/S/n= 482 / 447 / 035]
02576 # CONTINUOUS RAINFALL DATA
02577 #####
02578 # STORMS
02579 *****
02580 # END OF RUN : 1978
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02881 [IAREC=6.00;SMIN=141.94;SMAX=946.27;SK=.030]
02882 [InterEventTime=12.00]
02883 R19801C0013-----D-Tain-ID:INVD-----AREHA-A-PEAFCaMs-TPeakDate_hh:mm-----RvM-R-C-----DWFCms
02884 CONTINUOUS NASHDY 5.0 01:1A3C 1.21 .030 1980.1026,0120 162.01 299.000
02885 [CM=21.4;N=3.00;Tm=1.89]
02886 [IAREC=6.00;SMIN=179.29;SMAX=*****;SK=.030]
02887 [InterEventTime=12.00]
02888 R19801C0014-----D-Tain-ID:INVD-----AREHA-A-PEAFCaMs-TPeakDate_hh:mm-----RvM-R-C-----DWFCms
02889 ROUTE CHANNEL -> 5.0 02:1A3C 1.21 .030 1980.1026,0120 162.01 n/a .000
02890 * [RDY=5.00] out-> 5.0 01:1A3C-R 1.21 .002 1980.1026,0120 162.01 n/a .000
02891 [L/S/= 500./,440./,035]
02892 [Vmax=.071;Dmax=]
02893 R19801C0015-----D-Tain-ID:INVD-----AREHA-A-PEAFCaMs-TPeakDate_hh:mm-----RvM-R-C-----DWFCms
02894 CONTINUOUS NASHDY 5.0 01:1N7-3 5.71 .024 1980.0901,2105 166.29 307.000
02895 [CM=21.4;N=3.00;Tm=1.89]
02896 [IAREC=6.00;SMIN=73.13;SMAX=487.55;SK=.030]
02897 [InterEventTime=12.00]
02898 R19801C0016-----D-Tain-ID:INVD-----AREHA-A-PEAFCaMs-TPeakDate_hh:mm-----RvM-R-C-----DWFCms
02899 ADD HYD + 5.0 02:R1 49.51 .088 1980.1026,1100 163.56 n/a .000
02900 * [IAREC=6.00;SMIN=1.00;SMAX=*****;SK=.030]
02901 + 5.0 02:1N7-2 3.61 .010 1980.1026,0125 163.76 n/a .000
02902 * [IAREC=6.00;SMIN=1.00;SMAX=*****;SK=.030]
02903 + 5.0 02:1A3A 3.84 .013 1980.1026,0145 166.29 n/a .000
02904 + 5.0 02:1A3B 5.29 .012 1980.1026,0125 163.76 n/a .000
02905 [Vmax=.087;Dmax=]
02906 * [RDY=5.00] out-> 5.0 01:1A3C 73.56 .160 1980.1026,0140 164.04 n/a .000
02907 R19801C0017-----D-Tain-ID:INVD-----AREHA-A-PEAFCaMs-TPeakDate_hh:mm-----RvM-R-C-----DWFCms
02908 ROUTE CHANNEL -> 5.0 02:1A3C 73.56 .159 1980.1026,0150 164.04 n/a .000
02909 * [RDY=5.00] out-> 5.0 01:R2 73.56 .159 1980.1026,0150 164.04 n/a .000
02910 [L/S/= 359./,560./,123]
02911 [Vmax=.420;Dmax=.123]
02912 R19801C0018-----D-Tain-ID:INVD-----AREHA-A-PEAFCaMs-TPeakDate_hh:mm-----RvM-R-C-----DWFCms
02913 CONTINUOUS NASHDY 5.0 01:1A1A 21.43 .034 1980.1026,0155 161.80 299.000
02914 [CM=36.1;N=3.00;Tm=1.68]
02915 [IAREC=6.00;SMIN=194.7;SMAX=896.47;SK=.030]
02916 [InterEventTime=12.00]
02917 R19801C0019-----D-Tain-ID:INVD-----AREHA-A-PEAFCaMs-TPeakDate_hh:mm-----RvM-R-C-----DWFCms
02918 CONTINUOUS NASHDY 5.0 01:1A1B 4.70 .010 1980.1026,0155 163.08 301.000
02919 [CM=44.6;N=3.00;Tm=1.72]
02920 [IAREC=6.00;SMIN=194.7;SMAX=896.47;SK=.030]
02921 [InterEventTime=12.00]
02922 R19801C0020-----D-Tain-ID:INVD-----AREHA-A-PEAFCaMs-TPeakDate_hh:mm-----RvM-R-C-----DWFCms
02923 CONTINUOUS NASHDY 5.0 01:1A2 9.14 .046 1980.1026,0130 169.30 313.000
02924 [CM=6.4;N=3.00;Tm=1.12]
02925 [IAREC=6.00;SMIN=194.7;SMAX=896.47;SK=.030]
02926 [InterEventTime=12.00]
02927 R19801C0021-----D-Tain-ID:INVD-----AREHA-A-PEAFCaMs-TPeakDate_hh:mm-----RvM-R-C-----DWFCms
02928 ADD HYD + 5.0 02:R2 73.56 .159 1980.1026,0150 164.04 n/a .000
02929 * [IAREC=6.00;SMIN=1.00;SMAX=*****;SK=.030]
02930 + 5.0 02:1A1A 21.43 .034 1980.1026,0155 161.80 n/a .000
02931 * [IAREC=6.00;SMIN=1.00;SMAX=*****;SK=.030]
02932 + 5.0 02:1A1B 4.70 .010 1980.1026,0155 163.08 n/a .000
02933 R19801C0022-----D-Tain-ID:INVD-----AREHA-A-PEAFCaMs-TPeakDate_hh:mm-----RvM-R-C-----DWFCms
02934 ROUTE CHANNEL -> 5.0 02:1A3C 108.84 .246 1980.1026,0145 164.04 n/a .000
02935 * [RDY=5.00] out-> 5.0 01:R2 108.84 .242 1980.1026,1100 163.47 n/a .000
02936 [L/S/= 396./,305./,035]
02937 [Vmax=.087;Dmax=]
02938 R19801C0023-----D-Tain-ID:INVD-----AREHA-A-PEAFCaMs-TPeakDate_hh:mm-----RvM-R-C-----DWFCms
02939 CONTINUOUS NASHDY 5.0 01:1A1B 20.21 .033 1980.1026,0145 161.60 299.000
02940 [CM=21.4;N=3.00;Tm=1.89]
02941 [IAREC=6.00;SMIN=204.20;SMAX=*****;SK=.030]
02942 [InterEventTime=12.00]
02943 R19801C0024-----D-Tain-ID:INVD-----AREHA-A-PEAFCaMs-TPeakDate_hh:mm-----RvM-R-C-----DWFCms
02944 ADD HYD + 5.0 02:R3 108.84 .242 1980.1026,1100 164.04 n/a .000
02945 * [IAREC=6.00;SMIN=1.00;SMAX=*****;SK=.030]
02946 + 5.0 02:1A3C 129.05 .274 1980.1026,1100 163.43 n/a .000
02947 R19801C0025-----D-Tain-ID:INVD-----AREHA-A-PEAFCaMs-TPeakDate_hh:mm-----RvM-R-C-----DWFCms
02948 ROUTE CHANNEL -> 5.0 02:1A3C 129.05 .272 1980.1026,1100 163.43 n/a .000
02949 * [RDY=5.00] out-> 5.0 01:R2 129.05 .272 1980.1026,1100 163.43 n/a .000
02950 [L/S/= 482./,410./,035]
02951 [Vmax=.497;Dmax=.244]
02952 R19801C0026-----D-Tain-ID:INVD-----AREHA-A-PEAFCaMs-TPeakDate_hh:mm-----RvM-R-C-----DWFCms
02953 CONTINUOUS NASHDY 5.0 01:1A2 11.61 .022 1980.1026,0125 161.80 299.000
02954 [CM=36.1;N=3.00;Tm=1.68]
02955 [IAREC=6.00;SMIN=194.7;SMAX=896.47;SK=.030]
02956 [InterEventTime=12.00]
02957 R19801C0027-----D-Tain-ID:INVD-----AREHA-A-PEAFCaMs-TPeakDate_hh:mm-----RvM-R-C-----DWFCms
02958 ADD HYD + 5.0 02:R4 129.05 .272 1980.1026,1100 163.43 n/a .000
02959 * [IAREC=6.00;SMIN=1.00;SMAX=*****;SK=.030]
02960 + 5.0 02:1A3C 129.05 .272 1980.1026,0125 161.80 n/a .000
02961 R19801C0028-----D-Tain-ID:INVD-----AREHA-A-PEAFCaMs-TPeakDate_hh:mm-----RvM-R-C-----DWFCms
02962 ROUTE CHANNEL -> 5.0 02:1A3C 148.64 .304 1980.1026,1100 163.44 n/a .000
02963 * [RDY=5.00] out-> 5.0 01:R5 140.66 .290 1980.1026,1100 163.47 n/a .000
02964 [L/S/= 181./,500./,035]
02965 [Vmax=.482;Dmax=]
02966 R19801C0029-----D-Tain-ID:INVD-----AREHA-A-PEAFCaMs-TPeakDate_hh:mm-----RvM-R-C-----DWFCms
02967 CONTINUOUS NASHDY 5.0 01:1A3C 7.98 .020 1980.1026,0125 162.86 301.000
02968 [CM=42.6;N=3.00;Tm=.89]
02969 [IAREC=6.00;SMIN=141.94;SMAX=946.27;SK=.030]
02970 [InterEventTime=12.00]
02971 R19801C0030-----D-Tain-ID:INVD-----AREHA-A-PEAFCaMs-TPeakDate_hh:mm-----RvM-R-C-----DWFCms
02972 ADD HYD + 5.0 02:R3 148.64 .304 1980.1026,1100 163.44 n/a .000
02973 * [IAREC=6.00;SMIN=1.00;SMAX=*****;SK=.030]
02974 + 5.0 02:1A3C 148.64 .304 1980.1026,1100 163.44 n/a .000
02975 R19801C0031-----D-Tain-ID:INVD-----AREHA-A-PEAFCaMs-TPeakDate_hh:mm-----RvM-R-C-----DWFCms
02976 SAVE HYD + 5.0 01:1A3C 148.64 .304 1980.1026,1100 163.44 n/a .000
02977 [IAREC=6.00;SMIN=1.00;SMAX=*****;SK=.030]
02978 [InterEventTime=12.00]
02979 [IAREC=6.00;SMIN=141.94;SMAX=946.27;SK=.030]
02980 [InterEventTime=12.00]
02981 [IAREC=6.00;SMIN=141.94;SMAX=946.27;SK=.030]
02982 [IAREC=6.00;SMIN=141.94;SMAX=946.27;SK=.030]
02983 [IAREC=6.00;SMIN=141.94;SMAX=946.27;SK=.030]
02984 [IAREC=6.00;SMIN=141.94;SMAX=946.27;SK=.030]
02985 [IAREC=6.00;SMIN=141.94;SMAX=946.27;SK=.030]
02986 [IAREC=6.00;SMIN=141.94;SMAX=946.27;SK=.030]
02987 [IAREC=6.00;SMIN=141.94;SMAX=946.27;SK=.030]
02988 [IAREC=6.00;SMIN=141.94;SMAX=946.27;SK=.030]
02989 [IAREC=6.00;SMIN=141.94;SMAX=946.27;SK=.030]
02990 [IAREC=6.00;SMIN=141.94;SMAX=946.27;SK=.030]
02991 [IAREC=6.00;SMIN=141.94;SMAX=946.27;SK=.030]
02992 [IAREC=6.00;SMIN=141.94;SMAX=946.27;SK=.030]
02993 [IAREC=6.00;SMIN=141.94;SMAX=946.27;SK=.030]
02994 [IAREC=6.00;SMIN=141.94;SMAX=946.27;SK=.030]
02995 [IAREC=6.00;SMIN=141.94;SMAX=946.27;SK=.030]
02996 [IAREC=6.00;SMIN=141.94;SMAX=946.27;SK=.030]
02997 [IAREC=6.00;SMIN=141.94;SMAX=946.27;SK=.030]
02998 [IAREC=6.00;SMIN=141.94;SMAX=946.27;SK=.030]
02999 [IAREC=6.00;SMIN=141.94;SMAX=946.27;SK=.030]
03000 [IAREC=6.00;SMIN=141.94;SMAX=946.27;SK=.030]
03001 ***** END OF RUN : 1980
03002 *****
03003 *****
03004 *****
03005 *****
03006 *****
03007 *****
03008 *****
03009 *****
03010 *****
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032411 [Start\_date= 1982.0401; End\_date= 1982.1031]
032412 [DTM 60.0m; Length= 911; Dryhrs= 4825; PTO= 461.10]
032413 Maximum average rainfall intensities over
032414 1 hr 2 hrs 3 hrs 6 hrs 12 hrs 24 hrs 36 hrs 48 hrs 72 hrs
032415 15.80 31.70 47.50 71.30 95.10 118.90 142.70 166.50 190.30 mm/hr
032416 19.80 21.50 22.80 35.00 40.30 40.30 46.30 57.30 66.00
032417 19821001 19821001 19821002 19821003 19821004 19821005 19821006 19821007 19821008 19821009 19821010 19821011 19821012 19821013 19821014 19821015 19821016 19821017 19821018 19821019 19821020 19821021 19821022 19821023 19821024 19821025 19821026 19821027 19821028 19821029 19821030 19821031



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03601 R1983.C00030 -----D-Tain-ID:INVD-----AREAA-QFEARCS-TpeakDate_hh:mm-----RvM-R-C-----DWFCMS
03602 ADD HYD + 5.0 02:50UT-3 7.98 .032 1983.1005.16:20 149.39 n/a .000
03603 SIM# 5.0 01:126 148.64 .501 1983.1005.20:20 149.39 n/a .000
03604 R1983.C00031 -----D-Tain-ID:INVD-----AREAA-QFEARCS-TpeakDate_hh:mm-----RvM-R-C-----DWFCMS
03605 SAVE HYD 5.0 01:126 148.64 .501 1983.1005.20:20 149.39 n/a .000
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03781 [IAREC= 6.00; EMIN=204.20; SMAX=*****; SK= .030]
03782 [InterEventTime= 12.00]
03783 R1984.C00024 -----D-Tain-ID:INVD-----AREAA-QFEARCS-TpeakDate_hh:mm-----RvM-R-C-----DWFCMS
03784 ADD HYD + 5.0 02:03 108.84 .386 1984.0813.7:50 147.62 n/a .000
03785 SIM# 5.0 02:50UT-1 20.21 .052 1984.0813.7:50 147.30 n/a .000
03786 [IAREC= 6.00; EMIN=181.7; SMAX=*****; SK= .030]
03787 [I/S/N= 500 / 140 / 035]
03788 [Vmax= 528; Dmax= 278]
03789 ROUTE CHANNEL -> 5.0 02:14 129.05 .386 1984.0813.7:50 147.57 n/a .000
03790 [I/S/N= 487 / 440 / 035]
03791 [IAREC= 6.00; EMIN=194.19; SMAX=*****; SK= .030]
03792 [InterEventTime= 12.00]
03793 CONTINUOUS NASHYD 5.0 01:50UT-4 14.99 .047 1984.0813.7:50 147.35 n/a .000
03794 [CN# 39.5; N# 3.00; Tpe 1.23]
03795 [IAREC= 6.00; EMIN=168.62; SMAX=*****; SK= .030]
03796 [IAREC= 6.00; EMIN=168.62; SMAX=*****; SK= .030]
03797 [IAREC= 6.00; EMIN=168.62; SMAX=*****; SK= .030]
03798 ADD HYD + 5.0 02:04 129.05 .382 1984.0813.8:10 147.57 n/a .000
03799 SIM# 5.0 02:50UT-2 11.61 .039 1984.0813.6:50 147.31 n/a .000
03800 [IAREC= 6.00; EMIN=181.7; SMAX=*****; SK= .030]
03801 R1984.C00028 -----D-Tain-ID:INVD-----AREAA-QFEARCS-TpeakDate_hh:mm-----RvM-R-C-----DWFCMS
03802 ROUTE CHANNEL -> 5.0 01:25 140.66 .411 1984.0813.8:05 147.55 n/a .000
03803 [IAREC= 6.00; EMIN=181.7; SMAX=*****; SK= .030]
03804 [I/S/N= 181 / 500 / 035]
03805 [Vmax= 555; Dmax= 287]
03806 R1984.C00029 -----D-Tain-ID:INVD-----AREAA-QFEARCS-TpeakDate_hh:mm-----RvM-R-C-----DWFCMS
03807 CONTINUOUS NASHYD 5.0 01:50UT-3 14.99 .047 1984.0813.7:50 147.35 n/a .000
03808 [CN# 42.6; N# 3.00; Tpe .89]
03809 [IAREC= 6.00; EMIN=141.94; SMAX=946.27; SK= .030]
03810 [InterEventTime= 12.00]
03811 R1984.C00030 -----D-Tain-ID:INVD-----AREAA-QFEARCS-TpeakDate_hh:mm-----RvM-R-C-----DWFCMS
03812 ADD HYD + 5.0 02:03 108.84 .386 1984.0813.8:10 147.55 n/a .000
03813 SIM# 5.0 02:50UT-3 7.98 .035 1984.0813.6:45 147.41 n/a .000
03814 [IAREC= 6.00; EMIN=181.7; SMAX=*****; SK= .030]
03815 R1984.C00031 -----D-Tain-ID:INVD-----AREAA-QFEARCS-TpeakDate_hh:mm-----RvM-R-C-----DWFCMS
03816 SAVE HYD 5.0 01:126 148.64 .433 1984.0813.8:05 147.54 n/a .000
03817 #####
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03824 R1984.C00033 -----D-Tain-ID:INVD-----AREAA-QFEARCS-TpeakDate_hh:mm-----RvM-R-C-----DWFCMS
03825 CONTINUOUS NASHYD 5.0 01:50UT-4 14.99 .047 1984.0813.7:50 147.35 n/a .000
03826 [CN# 39.5; N# 3.00; Tpe 1.23]
03827 [IAREC= 6.00; EMIN=168.62; SMAX=*****; SK= .030]
03828 [InterEventTime= 12.00]
03829 R1984.C00034 -----D-Tain-ID:INVD-----AREAA-QFEARCS-TpeakDate_hh:mm-----RvM-R-C-----DWFCMS
03830 ADD HYD + 5.0 02:50UT-4 14.99 .047 1984.0813.7:50 147.35 n/a .000
03831 SIM# 5.0 01:126 148.64 .411 1984.0813.8:10 147.52 n/a .000
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03850 R1985.C00001 -----D-Tain-ID:INVD-----AREAA-QFEARCS-TpeakDate_hh:mm-----RvM-R-C-----DWFCMS
03851 START [INTER= .00 hrs on 19850401]
03852 [METOUT= 2 (1=Imperial, 2=metric output)]
03853 [NFORM= 0]
03854 [Date = 04-28-2021]
03855 [Modeler = J.F.S.]
03856 [Company = JFSAinc.]
03857 [License # = 2549237]
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03961) (Vmax =.455;Dmax= 12.00)
03962) R1985\C0018.D\HYD-----AREA#-PEAK#-----TpeakDate_hh:mm-----Rvmm-R.C-----DWfms
03963) CONTINUOUS NASHDY 5.0 01A1A 21.43 .044 1985.0618, 1125 154.88 340 .000
03964) [Cm 36.1; N= 3.00; Tm =.96]
03965) [IAREC 6.00; SMIN=141.94; SMAX=946.27; SK= .030]
03966) [InterEventTime= 12.00]
03967) R1985\C0019.D\HYD-----AREA#-PEAK#-----TpeakDate_hh:mm-----Rvmm-R.C-----DWfms
03968) CONTINUOUS NASHDY 5.0 01A1B 4.70 .013 1985.0618, 1125 155.35 341 .000
03969) [Cm 44.6; N= 3.00; Tm =.72]
03970) [IAREC 6.00; SMIN=141.94; SMAX=946.47; SK= .030]
03971) [InterEventTime= 12.00]
03972) R1985\C0020.D\HYD-----AREA#-PEAK#-----TpeakDate_hh:mm-----Rvmm-R.C-----DWfms
03973) CONTINUOUS NASHDY 5.0 01A2 9.14 .070 1985.0618, 0135 158.09 347 .000
03974) [Cm 36.1; N= 3.00; Tm =.96]
03975) [IAREC 6.00; SMIN=141.94; SMAX=946.27; SK= .030]
03976) [InterEventTime= 12.00]
03977) R1985\C0021.D\HYD-----AREA#-PEAK#-----TpeakDate_hh:mm-----Rvmm-R.C-----DWfms
03978) ADD HYD 5.0 02R82 73.56 .201 1985.0618, 1105 155.79 n/a .000
03979) + 5.0 02R1A 21.43 .044 1985.0618, 1125 154.88 n/a .000
03980) + 5.0 02R1B 4.70 .013 1985.0618, 1125 155.35 n/a .000
03981) + 5.0 02R2 9.14 .070 1985.0618, 0135 158.09 n/a .000
03982) SIM# 5.0 01A23 108.84 .321 1985.0618, 1100 155.79 n/a .000
03983) R1985\C0022.D\HYD-----AREA#-PEAK#-----TpeakDate_hh:mm-----Rvmm-R.C-----DWfms
03984) ROUTE CHANNEL -> 5.0 01R23 108.84 .321 1985.0618, 1100 155.79 n/a .000
03985) * [RDY 5.00] out<- 5.0 01R83 108.84 .315 1985.0618, 1120 155.79 n/a .000
03986) [I/S/N= 396./,305./,035]
03987) (Vmax =.397;Dmax= 12.00)
03988) R1985\C0023.D\HYD-----AREA#-PEAK#-----TpeakDate_hh:mm-----Rvmm-R.C-----DWfms
03989) CONTINUOUS NASHDY 5.0 01SOUTH-1 20.21 .043 1985.0618, 1100 154.82 340 .000
03990) [Cm 36.1; N= 3.00; Tm =.96]
03991) [IAREC 6.00; SMIN=204.20; SMAX=946.27; SK= .030]
03992) [InterEventTime= 12.00]
03993) R1985\C0024.D\HYD-----AREA#-PEAK#-----TpeakDate_hh:mm-----Rvmm-R.C-----DWfms
03994) ADD HYD 5.0 02R83 108.84 .315 1985.0618, 1120 155.79 n/a .000
03995) + 5.0 02R1B-1 20.21 .043 1985.0618, 0135 154.82 n/a .000
03996) SIM# 5.0 01A24 129.05 .357 1985.0618, 1115 155.64 n/a .000
03997) R1985\C0025.D\HYD-----AREA#-PEAK#-----TpeakDate_hh:mm-----Rvmm-R.C-----DWfms
03998) ROUTE CHANNEL -> 5.0 01R24 129.05 .357 1985.0618, 1115 155.64 n/a .000
03999) * [RDY 5.00] out<- 5.0 01R84 129.05 .353 1985.0618, 1130 155.64 n/a .000
04000) [I/S/N= 482./,440./,035]
04001) (Vmax =.522;Dmax= 12.00)
04002) R1985\C0026.D\HYD-----AREA#-PEAK#-----TpeakDate_hh:mm-----Rvmm-R.C-----DWfms
04003) CONTINUOUS NASHDY 5.0 01SOUTH-2 11.61 .031 1985.0618, 0130 154.88 340 .000
04004) [Cm 36.1; N= 3.00; Tm =.96]
04005) [IAREC 6.00; SMIN=191.79; SMAX=946.27; SK= .030]
04006) [InterEventTime= 12.00]
04007) R1985\C0027.D\HYD-----AREA#-PEAK#-----TpeakDate_hh:mm-----Rvmm-R.C-----DWfms
04008) ADD HYD 5.0 02R84 129.05 .353 1985.0618, 1130 155.64 n/a .000
04009) + 5.0 02SOUTH-2 11.61 .031 1985.0618, 0130 154.88 n/a .000
04010) SIM# 5.0 01A25 140.66 .397 1985.0618, 1130 155.57 n/a .000
04011) R1985\C0028.D\HYD-----AREA#-PEAK#-----TpeakDate_hh:mm-----Rvmm-R.C-----DWfms
04012) ROUTE CHANNEL -> 5.0 01R25 140.66 .397 1985.0618, 1130 155.57 n/a .000
04013) * [RDY 5.00] out<- 5.0 01R85 140.66 .377 1985.0618, 1130 155.57 n/a .000
04014) [I/S/N= 181./,500./,035]
04015) (Vmax =.498;Dmax= 12.00)
04016) R1985\C0029.D\HYD-----AREA#-PEAK#-----TpeakDate_hh:mm-----Rvmm-R.C-----DWfms
04017) CONTINUOUS NASHDY 5.0 01SOUTH-3 7.98 .029 1985.0618, 0125 155.26 340 .000
04018) [Cm 42.6; N= 3.00; Tm =.89]
04019) [IAREC 6.00; SMIN=141.94; SMAX=946.27; SK= .030]
04020) [InterEventTime= 12.00]
04021) R1985\C0030.D\HYD-----AREA#-PEAK#-----TpeakDate_hh:mm-----Rvmm-R.C-----DWfms
04022) ADD HYD 5.0 02R85 148.64 .395 1985.0618, 1130 155.56 n/a .000
04023) + 5.0 02SOUTH-3 7.98 .029 1985.0618, 0125 155.26 n/a .000
04024) SIM# 5.0 01A26 148.64 .397 1985.0618, 1130 155.56 n/a .000
04025) R1985\C0031.D\HYD-----AREA#-PEAK#-----TpeakDate_hh:mm-----Rvmm-R.C-----DWfms
04026) SAVE HYD 5.0 01A26 148.64 .397 1985.0618, 1130 155.56 n/a .000
04027) [IAREC 6.00; SMIN=141.94; SMAX=946.27; SK= .030]
04028) remark:J6-BearBrook Tributary Upstream of Thunder Road Crossing
04029) R1985\C0032.D\HYD-----AREA#-PEAK#-----TpeakDate_hh:mm-----Rvmm-R.C-----DWfms
04030) ROUTE CHANNEL -> 5.0 01R26 148.64 .395 1985.0618, 1130 155.56 n/a .000
04031) * [RDY 5.00] out<- 5.0 01R86 148.64 .395 1985.0618, 1135 155.56 n/a .000
04032) [I/S/N= 323./,440./,035]
04033) (Vmax =.547;Dmax= 12.00)
04034) R1985\C0033.D\HYD-----AREA#-PEAK#-----TpeakDate_hh:mm-----Rvmm-R.C-----DWfms
04035) CONTINUOUS NASHDY 5.0 01SOUTH-4 34.89 .040 1985.0618, 0145 155.02 340 .000
04036) [Cm 39.5; N= 3.00; Tm =1.23]
04037) [IAREC 6.00; SMIN=191.79; SMAX=946.27; SK= .030]
04038) [InterEventTime= 12.00]
04039) R1985\C0034.D\HYD-----AREA#-PEAK#-----TpeakDate_hh:mm-----Rvmm-R.C-----DWfms
04040) ADD HYD 5.0 02R86 148.64 .395 1985.0618, 1130 155.56 n/a .000
04041) + 5.0 02SOUTH-4 14.99 .040 1985.0618, 0145 155.02 n/a .000
04042) SIM# 5.0 01A27 140.66 .397 1985.0618, 1135 155.57 n/a .000
04043) #*****
04044) #*****
04045) #*****
04046) # CONTINUOUS RAINFALL DATA
04047) #*****
04048) #*****
04049) # STORMS
04050) #*****
04051) # END OF RUN : 1985
04052)
04053)
04054)
04055)
04056)
04057)
04058)
04059) RUN#COMMAND#
04060) R1986\C0001.D\HYD-----AREA#-PEAK#-----TpeakDate_hh:mm-----Rvmm-R.C-----DWfms
04061) START
04062) [TZERO = .00 hrs on 19870401]
04063) [METOUT= 2 (1=imperial, 2=metric output)]
04064) [NFORM= 0]
04065) [APIN= 50.00; APIDY= 9000; APIDK= 9956]
04066) [APIN= 50.00; APIDY= 9000; APIDK= 9956]
04067) # SWHYD / INPUT DATA FILE
04068) #*****
04069) # Project Name: [THUNDER ROAD] Project Number: [2128]
04070) # Date : 04-26-2021
04071) # Modeler : [J.F.B.]
04072) # Company : J.F.S.A.
04073) # License # : 2549237
04074) #*****
04075) #*****
04076) #*****
04077) # Ottawa International Airport - April 1st to October 31st
04078) R1986\C0002.D\HYD-----AREA#-PEAK#-----TpeakDate_hh:mm-----Rvmm-R.C-----DWfms
04079) # READ ARE DATA
04080) [IAREC 6.00; SMIN=141.94; SMAX=946.27; SK= .030]
04081) [Start_date= 1986.0401; End_date= 1986.1031]
04082) [DT= 60.min; Length= 3136.hrs; Wetdays= 408; Dryhrs= 4682; PTO= 790.80]
04083) Maximum average rainfall intensities over
04084) 1 hr 2 hrs 3 hrs 6 hrs 12 hrs 24 hrs 36 hrs 48 hrs 72 hrs
04085) 18.30 27.80 41.84 4.84 2.89 2.42 1.85 1.33 mm/hr
04086) 18.30 35.60 40.70 42.40 58.10 69.30 87.00 86.60 94.40 mm
04087) 19860729 19860729 19860729 19860729 19860729 19860729 19860729 19860729 19860729 date
04088) Number of rainfall events per following interval time
04089) 1 hr 2 hrs 3 hrs 6 hrs 12 hrs 24 hrs 36 hrs 48 hrs 72 hrs
04090) 188 128 70 52 43 38 26
04091) Number of events with at least the following durations
04092) 1 hr 2 hrs 3 hrs 6 hrs 12 hrs 24 hrs 36 hrs 48 hrs 72 hrs
04093) 157 93 69 19 1 0 0 0 0
04094) R1986\C0003.D\HYD-----AREA#-PEAK#-----TpeakDate_hh:mm-----Rvmm-R.C-----DWfms
04095) COMPUTE API
04096) [APIN= 50.00; APIDY= 9000; APIDK= 9956]
04097) [APIN= 50.00; APIDY= 9000; APIDK= 9956]
04098) R1986\C0004.D\HYD-----AREA#-PEAK#-----TpeakDate_hh:mm-----Rvmm-R.C-----DWfms
04099) CONTINUOUS NASHDY 5.0 01NORTH-1 34.70 .152 1986.0912, 8130 367.72 465 .000
04100) [Cm 36.1; N= 3.00; Tm =.96]
04101) [IAREC 6.00; SMIN=168.62; SMAX=946.27; SK= .030]
04102) [InterEventTime= 12.00]
04103) R1986\C0005.D\HYD-----AREA#-PEAK#-----TpeakDate_hh:mm-----Rvmm-R.C-----DWfms
04104) CONTINUOUS NASHDY 5.0 01NORTH-2 12.44 .142 1986.0912, 8130 367.72 465 .000
04105) [Cm 36.1; N= 3.00; Tm =.96]
04106) [IAREC 6.00; SMIN= 91.01; SMAX=606.70; SK= .030]
04107) [InterEventTime= 12.00]
04108) R1986\C0006.D\HYD-----AREA#-PEAK#-----TpeakDate_hh:mm-----Rvmm-R.C-----DWfms
04109) CONTINUOUS NASHDY 5.0 01NORTH-1 2.36 .049 1986.0912, 8130 367.72 465 .000
04110) [Cm 36.1; N= 3.00; Tm =.96]
04111) [IAREC 6.00; SMIN= 25.21; SMAX=168.09; SK= .030]
04112) [InterEventTime= 12.00]
04113) R1986\C0007.D\HYD-----AREA#-PEAK#-----TpeakDate_hh:mm-----Rvmm-R.C-----DWfms
04114) ADD HYD 5.0 02NORTH-1 34.70 .152 1986.0912, 8130 367.72 n/a .000
04115) + 5.0 02NORTH-2 12.44 .142 1986.0912, 8130 367.72 n/a .000
04116) + 5.0 02NORTH-1 2.36 .049 1986.0912, 8130 367.72 n/a .000
04117) SIM# 5.0 01A28 140.66 .397 1986.0912, 8130 367.72 n/a .000
04118) R1986\C0008.D\HYD-----AREA#-PEAK#-----TpeakDate_hh:mm-----Rvmm-R.C-----DWfms
04119) ROUTE CHANNEL -> 5.0 01R21 49.51 .310 1986.0912, 6140 368.35 n/a .000
04120) * [RDY 5.00] out<- 5.0 01R81 49.51 .310 1986.0912, 6150 368.35 n/a .000
04121) [I/S/N= 478./,440./,035]
04122) (Vmax =.536;Dmax= 12.00)
04123) R1986\C0009.D\HYD-----AREA#-PEAK#-----TpeakDate_hh:mm-----Rvmm-R.C-----DWfms
04124) CONTINUOUS NASHDY 5.0 01NORTH-1 4.39 .053 1986.0912, 0115 369.96 468 .000
04125) [Cm 36.1; N= 3.00; Tm =.96]
04126) [IAREC 6.00; SMIN= 67.24; SMAX=484.24; SK= .030]
04127) [InterEventTime= 12.00]
04128) R1986\C0010.D\HYD-----AREA#-PEAK#-----TpeakDate_hh:mm-----Rvmm-R.C-----DWfms
04129) CONTINUOUS NASHDY 5.0 01NORTH-2 3.61 .043 1986.0912, 6120 368.51 466 .000
04130) [Cm 36.1; N= 3.00; Tm =.96]
04131) [IAREC 6.00; SMIN=115.26; SMAX=768.40; SK= .030]
04132) [InterEventTime= 12.00]
04133) R1986\C0011.D\HYD-----AREA#-PEAK#-----TpeakDate_hh:mm-----Rvmm-R.C-----DWfms
04134) CONTINUOUS NASHDY 5.0 01A3A 3.84 .047 1986.0912, 0105 369.71 468 .000
04135) [Cm 36.1; N= 3.00; Tm =.96]
04136) [IAREC 6.00; SMIN= 73.13; SMAX=487.55; SK= .030]
04137) [InterEventTime= 12.00]
04138) R1986\C0012.D\HYD-----AREA#-PEAK#-----TpeakDate_hh:mm-----Rvmm-R.C-----DWfms
04139) CONTINUOUS NASHDY 5.0 01A3B 5.29 .049 1986.0912, 6135 368.05 465 .000
04140) [Cm 42.6; N= 3.00; Tm =1.26]

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042321 [IAREC 6.00; SMIN= 25.21; SMAX=168.09; SK= .030]
042322 [InterEventTime= 12.00]
042323 R1987.C00007 -----D-Tain-ID-INHYD-----AREAhA-QFEARcs-TPeakDate_hh:mm-----RvM-R.C-----DWFCms
042324 ADD HYD + 5.0 02:RINT-1 34.70 .078 1987.0724.0150 189.83 n/a .000
042325 + 5.0 02:RINT-2 12.44 .084 1987.0724.2140 190.32 n/a .000
042326 + 5.0 02:RINT-1 2.36 .038 1987.0724.1540 194.46 n/a .000
042327 [I/S= 478 / 440 / 035]
042328 R1987.C00008 -----D-Tain-ID-INHYD-----AREAhA-QFEARcs-TPeakDate_hh:mm-----RvM-R.C-----DWFCms
042329 ROUTE CHANNEL -> 5.0 02:J1 49.51 .176 1987.0724.2245 190.23 n/a .000
042330 [RDY= 5.00] out-< 5.0 01:R1 49.51 .176 1987.0724.2310 190.23 n/a .000
042331 [I/S= 478 / 440 / 035]
042332 [Vmax = 462; Dmax = 330]
042333 R1987.C00009 -----D-Tain-ID-INHYD-----AREAhA-QFEARcs-TPeakDate_hh:mm-----RvM-R.C-----DWFCms
042334 CONTINUOUS NASHDY 5.0 01:RINT-1 4.39 .031 1987.0724.1605 191.01 338 .000
042335 [CM 42.4; N= 3.00; Tm= .89]
042336 [IAREC 6.00; SMIN= 67.24; SMAX=448.24; SK= .030]
042337 [InterEventTime= 12.00]
042338 R1987.C00010 -----D-Tain-ID-INHYD-----AREAhA-QFEARcs-TPeakDate_hh:mm-----RvM-R.C-----DWFCms
042339 CONTINUOUS NASHDY 5.0 01:RINT-2 3.61 .025 1987.0724.2210 190.21 337 .000
042340 [CM 42.4; N= 3.00; Tm= 1.48]
042341 [IAREC 6.00; SMIN=115.26; SMAX=768.40; SK= .030]
042342 [InterEventTime= 12.00]
042343 R1987.C00011 -----D-Tain-ID-INHYD-----AREAhA-QFEARcs-TPeakDate_hh:mm-----RvM-R.C-----DWFCms
042344 CONTINUOUS NASHDY 5.0 01:AJA 3.84 .028 1987.0724.1555 190.87 338 .000
042345 [CM 42.4; N= 3.00; Tm= 1.29]
042346 [IAREC 6.00; SMIN= 73.13; SMAX=487.55; SK= .030]
042347 [InterEventTime= 12.00]
042348 R1987.C00012 -----D-Tain-ID-INHYD-----AREAhA-QFEARcs-TPeakDate_hh:mm-----RvM-R.C-----DWFCms
042349 CONTINUOUS NASHDY 5.0 01:AJB 5.29 .027 1987.0724.2210 189.99 337 .000
042350 [CM 42.4; N= 3.00; Tm= 1.29]
042351 [IAREC 6.00; SMIN=141.94; SMAX=946.27; SK= .030]
042352 [InterEventTime= 12.00]
042353 R1987.C00013 -----D-Tain-ID-INHYD-----AREAhA-QFEARcs-TPeakDate_hh:mm-----RvM-R.C-----DWFCms
042354 CONTINUOUS NASHDY 5.0 01:AJC 1.21 .006 1987.0724.2210 189.78 336 .000
042355 [CM 21.4; N= 3.00; Tm= .87]
042356 [IAREC 6.00; SMIN=179.29; SMAX*****; SK= .030]
042357 [InterEventTime= 12.00]
042358 R1987.C00014 -----D-Tain-ID-INHYD-----AREAhA-QFEARcs-TPeakDate_hh:mm-----RvM-R.C-----DWFCms
042359 ROUTE CHANNEL -> 5.0 02:AJC 1.21 .006 1987.0724.2210 189.78 n/a .000
042360 [RDY= 5.00] out-< 5.0 01:AJC-R 1.21 .005 1987.0724.2215 189.78 n/a .000
042361 [I/S= 500 / 140 / 035]
042362 [Vmax = 104; Dmax = 330]
042363 R1987.C00015 -----D-Tain-ID-INHYD-----AREAhA-QFEARcs-TPeakDate_hh:mm-----RvM-R.C-----DWFCms
042364 CONTINUOUS NASHDY 5.0 01:RINT-3 5.71 .056 1987.0724.1530 190.87 338 .000
042365 [CM 38.4; N= 3.00; Tm= 1.45]
042366 [IAREC 6.00; SMIN= 73.13; SMAX=487.55; SK= .030]
042367 [InterEventTime= 12.00]
042368 R1987.C00016 -----D-Tain-ID-INHYD-----AREAhA-QFEARcs-TPeakDate_hh:mm-----RvM-R.C-----DWFCms
042369 ADD HYD + 5.0 02:R1 49.51 .173 1987.0724.2310 190.23 n/a .000
042370 + 5.0 02:RINT-1 4.39 .031 1987.0724.2150 191.01 n/a .000
042371 + 5.0 02:RINT-2 3.61 .025 1987.0724.2210 190.21 n/a .000
042372 + 5.0 02:RINT-1 2.36 .038 1987.0724.1540 194.46 n/a .000
042373 + 5.0 02:AJA 3.84 .028 1987.0724.1555 190.87 n/a .000
042374 + 5.0 02:AJB 5.29 .027 1987.0724.2210 189.99 n/a .000
042375 + 5.0 02:AJC-R 1.21 .005 1987.0724.2215 189.78 n/a .000
042376 [IAREC 6.00; SMIN= 73.13; SMAX=487.55; SK= .030]
042377 [InterEventTime= 12.00]
042378 R1987.C00017 -----D-Tain-ID-INHYD-----AREAhA-QFEARcs-TPeakDate_hh:mm-----RvM-R.C-----DWFCms
042379 ROUTE CHANNEL -> 5.0 02:J2 73.56 .330 1987.0724.2240 190.34 n/a .000
042380 [RDY= 5.00] out-< 5.0 01:R2 73.56 .327 1987.0724.2250 190.33 n/a .000
042381 [I/S= 569 / 359 / 035]
042382 [Vmax = 543; Dmax = 175]
042383 R1987.C00018 -----D-Tain-ID-INHYD-----AREAhA-QFEARcs-TPeakDate_hh:mm-----RvM-R.C-----DWFCms
042384 CONTINUOUS NASHDY 5.0 01:AJA 21.43 .073 1987.0724.2310 189.73 336 .000
042385 [CM 36.1; N= 3.00; Tm= 1.68]
042386 [IAREC 6.00; SMIN= 67.24; SMAX=448.24; SK= .030]
042387 [InterEventTime= 12.00]
042388 R1987.C00019 -----D-Tain-ID-INHYD-----AREAhA-QFEARcs-TPeakDate_hh:mm-----RvM-R.C-----DWFCms
042389 CONTINUOUS NASHDY 5.0 01:AJB 4.70 .020 1987.0724.2310 190.04 337 .000
042390 [CM 44.4; N= 3.00; Tm= 1.72]
042391 [IAREC 6.00; SMIN= 67.24; SMAX=448.24; SK= .030]
042392 [InterEventTime= 12.00]
042393 R1987.C00020 -----D-Tain-ID-INHYD-----AREAhA-QFEARcs-TPeakDate_hh:mm-----RvM-R.C-----DWFCms
042394 CONTINUOUS NASHDY 5.0 01:AJC 9.14 .104 1987.0724.1540 191.73 340 .000
042395 [CM 64.1; N= 3.00; Tm= 1.12]
042396 [IAREC 6.00; SMIN= 67.24; SMAX=448.24; SK= .030]
042397 [InterEventTime= 12.00]
042398 R1987.C00021 -----D-Tain-ID-INHYD-----AREAhA-QFEARcs-TPeakDate_hh:mm-----RvM-R.C-----DWFCms
042399 ADD HYD + 5.0 02:R2 73.56 .327 1987.0724.2250 190.33 n/a .000
042400 + 5.0 02:AJA 21.43 .073 1987.0724.2310 189.73 n/a .000
042401 + 5.0 02:AJB 4.70 .020 1987.0724.2310 190.04 n/a .000
042402 + 5.0 02:AJC 9.14 .104 1987.0724.1540 191.74 n/a .000
042403 [IAREC 6.00; SMIN= 67.24; SMAX=448.24; SK= .030]
042404 [InterEventTime= 12.00]
042405 R1987.C00022 -----D-Tain-ID-INHYD-----AREAhA-QFEARcs-TPeakDate_hh:mm-----RvM-R.C-----DWFCms
042406 ROUTE CHANNEL -> 5.0 02:J3 108.84 .510 1987.0724.2245 190.32 n/a .000
042407 [RDY= 5.00] out-< 5.0 01:R3 108.84 .500 1987.0724.2310 190.32 n/a .000
042408 [I/S= 396 / 305 / 035]
042409 [Vmax = 104; Dmax = 330]
042410 R1987.C00023 -----D-Tain-ID-INHYD-----AREAhA-QFEARcs-TPeakDate_hh:mm-----RvM-R.C-----DWFCms
042411 CONTINUOUS NASHDY 5.0 01:RINT-1 20.21 .075 1987.0724.2245 189.68 336 .000
042412 [CM 25.5; N= 3.00; Tm= 1.28]
042413 [IAREC 6.00; SMIN=204.20; SMAX*****; SK= .030]
042414 [InterEventTime= 12.00]
042415 R1987.C00024 -----D-Tain-ID-INHYD-----AREAhA-QFEARcs-TPeakDate_hh:mm-----RvM-R.C-----DWFCms
042416 ADD HYD + 5.0 02:R3 108.84 .500 1987.0724.2310 190.32 n/a .000
042417 + 5.0 02:AJA 21.43 .073 1987.0724.2310 189.68 n/a .000
042418 + 5.0 02:AJB 4.70 .020 1987.0724.2310 190.04 n/a .000
042419 [IAREC 6.00; SMIN= 67.24; SMAX=448.24; SK= .030]
042420 [InterEventTime= 12.00]
042421 R1987.C00025 -----D-Tain-ID-INHYD-----AREAhA-QFEARcs-TPeakDate_hh:mm-----RvM-R.C-----DWFCms
042422 ROUTE CHANNEL -> 5.0 02:J4 129.05 .573 1987.0724.2255 190.22 n/a .000
042423 [RDY= 5.00] out-< 5.0 01:R4 129.05 .565 1987.0724.2310 190.22 n/a .000
042424 [I/S= 482 / 410 / 035]
042425 [Vmax = 576; Dmax = 130]
042426 R1987.C00026 -----D-Tain-ID-INHYD-----AREAhA-QFEARcs-TPeakDate_hh:mm-----RvM-R.C-----DWFCms
042427 CONTINUOUS NASHDY 5.0 01:RINT-2 11.61 .056 1987.0724.2225 189.73 336 .000
042428 [CM 36.7; N= 3.00; Tm= .96]
042429 [IAREC 6.00; SMIN= 67.24; SMAX=448.24; SK= .030]
042430 [InterEventTime= 12.00]
042431 R1987.C00027 -----D-Tain-ID-INHYD-----AREAhA-QFEARcs-TPeakDate_hh:mm-----RvM-R.C-----DWFCms
042432 ADD HYD + 5.0 02:R4 129.05 .565 1987.0724.2310 190.22 n/a .000
042433 + 5.0 02:RINT-2 11.61 .056 1987.0724.2225 189.73 n/a .000
042434 + 5.0 02:AJA 21.43 .073 1987.0724.2310 190.22 n/a .000
042435 [IAREC 6.00; SMIN= 67.24; SMAX=448.24; SK= .030]
042436 [InterEventTime= 12.00]
042437 R1987.C00028 -----D-Tain-ID-INHYD-----AREAhA-QFEARcs-TPeakDate_hh:mm-----RvM-R.C-----DWFCms
042438 ROUTE CHANNEL -> 5.0 02:J5 148.64 .639 1987.0724.2310 190.17 n/a .000
042439 [RDY= 5.00] out-< 5.0 01:R5 148.64 .605 1987.0724.2310 190.18 n/a .000
042440 [I/S= 588 / 310 / 035]
042441 [Vmax = 346; Dmax = 307]
042442 R1987.C00029 -----D-Tain-ID-INHYD-----AREAhA-QFEARcs-TPeakDate_hh:mm-----RvM-R.C-----DWFCms
042443 CONTINUOUS NASHDY 5.0 01:RINT-3 7.98 .050 1987.0724.2210 189.99 337 .000
042444 [CM 42.6; N= 3.00; Tm= .89]
042445 [IAREC 6.00; SMIN=141.94; SMAX=946.27; SK= .030]
042446 [InterEventTime= 12.00]
042447 R1987.C00030 -----D-Tain-ID-INHYD-----AREAhA-QFEARcs-TPeakDate_hh:mm-----RvM-R.C-----DWFCms
042448 ADD HYD + 5.0 02:R5 148.64 .639 1987.0724.2310 190.17 n/a .000
042449 + 5.0 02:RINT-3 7.98 .050 1987.0724.2210 189.99 n/a .000
042450 + 5.0 02:AJA 21.43 .073 1987.0724.2310 190.18 n/a .000
042451 [IAREC 6.00; SMIN= 67.24; SMAX=448.24; SK= .030]
042452 [InterEventTime= 12.00]
042453 R1987.C00031 -----D-Tain-ID-INHYD-----AREAhA-QFEARcs-TPeakDate_hh:mm-----RvM-R.C-----DWFCms
042454 SAVE HYD + 5.0 01:J6 148.64 .639 1987.0724.2305 190.17 n/a .000
042455 [IAREC 6.00; SMIN= 67.24; SMAX=448.24; SK= .030]
042456 [InterEventTime= 12.00]
042457 R1987.C00032 -----D-Tain-ID-INHYD-----AREAhA-QFEARcs-TPeakDate_hh:mm-----RvM-R.C-----DWFCms
042458 remark:J6-Bearbrook Tributary Upstream of Thunder Road Crossing
042459 R1987.C00033 -----D-Tain-ID-INHYD-----AREAhA-QFEARcs-TPeakDate_hh:mm-----RvM-R.C-----DWFCms
042460 ROUTE CHANNEL -> 5.0 02:J6 148.64 .639 1987.0724.2310 190.17 n/a .000
042461 [RDY= 5.00] out-< 5.0 01:R6 148.64 .639 1987.0724.2310 190.17 n/a .000
042462 [I/S= 323 / 440 / 035]
042463 [Vmax = 603; Dmax = 338]
042464 R1987.C00034 -----D-Tain-ID-INHYD-----AREAhA-QFEARcs-TPeakDate_hh:mm-----RvM-R.C-----DWFCms
042465 CONTINUOUS NASHDY 5.0 01:RINT-4 34.99 .069 1987.0724.2235 189.83 336 .000
042466 [CM 39.5; N= 3.00; Tm= 1.23]
042467 [IAREC 6.00; SMIN=161.62; SMAX*****; SK= .030]
042468 [InterEventTime= 12.00]
042469 R1987.C00035 -----D-Tain-ID-INHYD-----AREAhA-QFEARcs-TPeakDate_hh:mm-----RvM-R.C-----DWFCms
042470 ADD HYD + 5.0 02:R6 148.64 .639 1987.0724.2310 190.17 n/a .000
042471 + 5.0 02:RINT-4 14.99 .069 1987.0724.2235 189.83 n/a .000
042472 + 5.0 01:Total 163.63 .696 1987.0724.2310 190.14 n/a .000
042473 #####
042474 #####
042475 #####
042476 #####
042477 #####
042478 #####
042479 #####
042480 #####
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042497 #####
042498 #####
042499 #####
042500 #####

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05401 [IAREC=6.00;SMIN=141.94;SMAX=946.27;SK=030]
05402 [InterEventTime=12.00]
05403 R19921C0013-----Dtain-ID:INVD-----AREHA-A-FEAKs-TPeakDate_hh:mm-----RvM-R-C-----DWfms
05404 CONTINUOUS NASHDY 5.0 01:1AC 1.21 .010 1992.0717.1915 220.96 4.00 .000
05405 [Cm 28.4;N=3.00;Tm=1.89]
05406 [IAREC=6.00;SMIN=179.29;SMAX=*****;SK=030]
05407 [InterEventTime=12.00]
05408 R19921C0015-----Dtain-ID:INVD-----AREHA-A-FEAKs-TPeakDate_hh:mm-----RvM-R-C-----DWfms
05409 ROUTE CHANNEL -> 5.0 02:1AC 1.21 .010 1992.0717.1915 220.96 n/a .000
05410 [RDY=5.00] out<- 5.0 01:1AC-R 1.21 .008 1992.0717.1915 220.95 n/a .000
05411 [I/S/= 500./140./035]
05412 [Vmax=126;Dmax=]
05413 R19921C0015-----Dtain-ID:INVD-----AREHA-A-FEAKs-TPeakDate_hh:mm-----RvM-R-C-----DWfms
05414 CONTINUOUS NASHDY 5.0 01:1NT-3 5.71 .092 1992.0717.1910 221.37 4.01 .000
05415 [Cm 28.4;N=3.00;Tm=1.89]
05416 [IAREC=6.00;SMIN=73.13;SMAX=487.55;SK=030]
05417 [InterEventTime=12.00]
05418 R19921C0015-----Dtain-ID:INVD-----AREHA-A-FEAKs-TPeakDate_hh:mm-----RvM-R-C-----DWfms
05419 ADD HYD + 5.0 02:1R1 49.51 .263 1992.0717.2000 221.11 n/a .000
05420 [IAREC=6.00;SMIN=19.89;SMAX=*****;SK=030]
05421 + 5.0 02:1NT-2 3.61 .041 1992.0717.1915 221.12 n/a .000
05422 + 5.0 02:1NT-2 3.61 .041 1992.0717.1915 221.12 n/a .000
05423 + 5.0 02:1A3 3.84 .048 1992.0717.1940 221.37 n/a .000
05424 + 5.0 02:1A3 3.84 .048 1992.0717.1940 221.37 n/a .000
05425 + 5.0 02:1A3 3.84 .048 1992.0717.1940 221.37 n/a .000
05426 + 5.0 02:1A3 3.84 .048 1992.0717.1940 221.37 n/a .000
05427 R19921C0017-----Dtain-ID:INVD-----AREHA-A-FEAKs-TPeakDate_hh:mm-----RvM-R-C-----DWfms
05428 ROUTE CHANNEL -> 5.0 02:1Z 73.56 .530 1992.0717.1915 221.16 n/a .000
05429 [RDY=5.00] out<- 5.0 01:1R2 73.56 .528 1992.0717.1915 221.15 n/a .000
05430 [I/S/= 396./305./035]
05431 [Vmax=641;Dmax=223]
05432 R19921C0018-----Dtain-ID:INVD-----AREHA-A-FEAKs-TPeakDate_hh:mm-----RvM-R-C-----DWfms
05433 CONTINUOUS NASHDY 5.0 01:1A1 21.43 .123 1992.0717.2000 220.94 4.00 .000
05434 [Cm 36.1;N=3.00;Tm=1.68]
05435 [IAREC=6.00;SMIN=194.61;SMAX=*****;SK=030]
05436 [InterEventTime=12.00]
05437 R19921C0018-----Dtain-ID:INVD-----AREHA-A-FEAKs-TPeakDate_hh:mm-----RvM-R-C-----DWfms
05438 CONTINUOUS NASHDY 5.0 01:1A1 4.70 .035 1992.0717.2000 221.06 4.00 .000
05439 [Cm 44.6;N=3.00;Tm=1.72]
05440 [IAREC=6.00;SMIN=186.47;SMAX=896.47;SK=030]
05441 [InterEventTime=12.00]
05442 R19921C0020-----Dtain-ID:INVD-----AREHA-A-FEAKs-TPeakDate_hh:mm-----RvM-R-C-----DWfms
05443 CONTINUOUS NASHDY 5.0 01:1A2 9.14 .171 1992.0717.1920 221.68 4.02 .000
05444 [Cm 64.1;N=3.00;Tm=1.12]
05445 [IAREC=6.00;SMIN=191.84;SMAX=323.73;SK=030]
05446 [InterEventTime=12.00]
05447 R19921C0021-----Dtain-ID:INVD-----AREHA-A-FEAKs-TPeakDate_hh:mm-----RvM-R-C-----DWfms
05448 ADD HYD + 5.0 02:1R2 73.56 .528 1992.0717.1945 221.15 n/a .000
05449 + 5.0 02:1A1 21.43 .123 1992.0717.2000 220.94 n/a .000
05450 + 5.0 02:1A1 21.43 .123 1992.0717.2000 220.94 n/a .000
05451 + 5.0 02:1A2 9.14 .171 1992.0717.1920 221.68 n/a .000
05452 + 5.0 02:1A2 9.14 .171 1992.0717.1920 221.68 n/a .000
05453 R19921C0022-----Dtain-ID:INVD-----AREHA-A-FEAKs-TPeakDate_hh:mm-----RvM-R-C-----DWfms
05454 ROUTE CHANNEL -> 5.0 02:1Z 108.84 .845 1992.0717.1940 221.15 n/a .000
05455 [RDY=5.00] out<- 5.0 01:1R3 108.84 .834 1992.0717.1940 221.15 n/a .000
05456 [I/S/= 396./305./035]
05457 [Vmax=641;Dmax=223]
05458 R19921C0023-----Dtain-ID:INVD-----AREHA-A-FEAKs-TPeakDate_hh:mm-----RvM-R-C-----DWfms
05459 CONTINUOUS NASHDY 5.0 01:1A1 20.21 .123 1992.0717.1940 220.92 4.00 .000
05460 [Cm 28.4;N=3.00;Tm=1.89]
05461 [IAREC=6.00;SMIN=204.20;SMAX=*****;SK=030]
05462 [InterEventTime=12.00]
05463 R19921C0024-----Dtain-ID:INVD-----AREHA-A-FEAKs-TPeakDate_hh:mm-----RvM-R-C-----DWfms
05464 ADD HYD + 5.0 02:1R3 108.84 .834 1992.0717.1950 221.15 n/a .000
05465 + 5.0 02:1A1 20.21 .123 1992.0717.1940 220.92 n/a .000
05466 + 5.0 02:1A2 129.05 .956 1992.0717.1950 221.11 n/a .000
05467 R19921C0025-----Dtain-ID:INVD-----AREHA-A-FEAKs-TPeakDate_hh:mm-----RvM-R-C-----DWfms
05468 ROUTE CHANNEL -> 5.0 02:1Z 129.05 .956 1992.0717.1950 221.11 n/a .000
05469 [RDY=5.00] out<- 5.0 01:1R4 129.05 .947 1992.0717.2000 221.11 n/a .000
05470 [I/S/= 482./410./035]
05471 [Vmax=638;Dmax=401]
05472 R19921C0026-----Dtain-ID:INVD-----AREHA-A-FEAKs-TPeakDate_hh:mm-----RvM-R-C-----DWfms
05473 CONTINUOUS NASHDY 5.0 01:1A1 11.61 .090 1992.0717.1920 220.94 4.00 .000
05474 [Cm 36.1;N=3.00;Tm=1.68]
05475 [IAREC=6.00;SMIN=191.84;SMAX=*****;SK=030]
05476 [InterEventTime=12.00]
05477 R19921C0027-----Dtain-ID:INVD-----AREHA-A-FEAKs-TPeakDate_hh:mm-----RvM-R-C-----DWfms
05478 ADD HYD + 5.0 02:1R4 129.05 .947 1992.0717.2000 221.11 n/a .000
05479 + 5.0 02:1A1 11.61 .090 1992.0717.1920 220.94 n/a .000
05480 + 5.0 02:1A2 129.05 .956 1992.0717.1950 221.11 n/a .000
05481 R19921C0028-----Dtain-ID:INVD-----AREHA-A-FEAKs-TPeakDate_hh:mm-----RvM-R-C-----DWfms
05482 ROUTE CHANNEL -> 5.0 02:1Z 140.66 1.020 1992.0717.1955 221.10 n/a .000
05483 [RDY=5.00] out<- 5.0 01:1R5 140.66 1.018 1992.0717.2000 221.10 n/a .000
05484 [I/S/= 181./500./035]
05485 [Vmax=644;Dmax=223]
05486 R19921C0029-----Dtain-ID:INVD-----AREHA-A-FEAKs-TPeakDate_hh:mm-----RvM-R-C-----DWfms
05487 CONTINUOUS NASHDY 5.0 01:1A1 7.98 .080 1992.0717.1915 221.03 4.00 .000
05488 [Cm 42.6;N=3.00;Tm=.89]
05489 [IAREC=6.00;SMIN=141.94;SMAX=946.27;SK=030]
05490 [InterEventTime=12.00]
05491 R19921C0030-----Dtain-ID:INVD-----AREHA-A-FEAKs-TPeakDate_hh:mm-----RvM-R-C-----DWfms
05492 ADD HYD + 5.0 02:1R2 73.56 .528 1992.0717.2000 221.10 n/a .000
05493 + 5.0 02:1A1 7.98 .080 1992.0717.1915 221.03 n/a .000
05494 + 5.0 02:1A2 148.64 1.079 1992.0717.2000 221.10 n/a .000
05495 R19921C0031-----Dtain-ID:INVD-----AREHA-A-FEAKs-TPeakDate_hh:mm-----RvM-R-C-----DWfms
05496 SAVE HYD + 5.0 01:1Z 148.64 1.079 1992.0717.2000 221.10 n/a .000
05497 [IAREC=6.00;SMIN=191.84;SMAX=*****;SK=030]
05498 [InterEventTime=12.00]
05499 remark:J6-Bearbrook Tributary Upstream of Thunder Road Crossing
05500 R19921C0032-----Dtain-ID:INVD-----AREHA-A-FEAKs-TPeakDate_hh:mm-----RvM-R-C-----DWfms
05501 ROUTE CHANNEL -> 5.0 01:1R6 148.64 1.075 1992.0717.2005 221.10 n/a .000
05502 [RDY=5.00] out<- 5.0 01:1R6 148.64 1.075 1992.0717.2005 221.10 n/a .000
05503 [I/S/= 396./305./035]
05504 [Vmax=672;Dmax=414]
05505 R19921C0033-----Dtain-ID:INVD-----AREHA-A-FEAKs-TPeakDate_hh:mm-----RvM-R-C-----DWfms
05506 CONTINUOUS NASHDY 5.0 01:1A1 34.89 .114 1992.0717.1930 220.97 4.00 .000
05507 [Cm 39.5;N=3.00;Tm=1.23]
05508 [IAREC=6.00;SMIN=191.84;SMAX=*****;SK=030]
05509 [InterEventTime=12.00]
05510 R19921C0034-----Dtain-ID:INVD-----AREHA-A-FEAKs-TPeakDate_hh:mm-----RvM-R-C-----DWfms
05511 ADD HYD + 5.0 02:1R4 14.99 .114 1992.0717.1930 220.97 n/a .000
05512 + 5.0 02:1A1 34.89 .114 1992.0717.1930 220.97 n/a .000
05513 + 5.0 02:1A2 148.64 1.079 1992.0717.2000 221.10 n/a .000
05514 #####
05515 # CONTINUOUS RAINFALL DATA
05516 #####
05517 #####
05518 #####
05519 # STORMS
05520 #####
05521 # END OF RUN : 1992
05522 #####
05523 #####
05524 #####
05525 #####
05526 #####
05527 #####
05528 #####
05529 ROW# COMMAND#
05530 R19921C0031-----Dtain-ID:INVD-----AREHA-A-FEAKs-TPeakDate_hh:mm-----RvM-R-C-----DWfms
05531 START [ITER0 = .00 hrs on 19930401]
05532 [METOUT= 2 (1=Imperial, 2=metric output)]
05533 [NFORM= 0]
05534 [RUN= 1994]
05535 #####
05536 # SWINFO / INPUT DATA FILE
05537 #####
05538 #####
05539 # Project Name: [THUNDER ROAD] Project Number: [2128]
05540 # Date : 04-28-2021
05541 # Modeler : [J.F.]
05542 # Company : JFSaInc.
05543 # License # : 2549237
05544 #####
05545 # OCEANA International Airport - April 1st to October 31st
05546 #####
05547 # OCEANA International Airport - April 1st to October 31st
05548 R19931C0002-----Dtain-ID:INVD-----AREHA-A-FEAKs-TPeakDate_hh:mm-----RvM-R-C-----DWfms
05549 # READ AED DATA
05550 [Filename = YOM_1967_2007.123 ]
05551 [Start_date=1993.0401;End_date=1993.1031]
05552 [DT=60;min;Length=36;hrs;Metric=421;Dayz=4705;Ptot=556.70]
05553 Maximum average rainfall intensities over
05554 1 hr 2 hrs 3 hrs 6 hrs 12 hrs 24 hrs 36 hrs 48 hrs 72 hrs
05555 12.46 12.46 6.40 6.40 2.22 2.00 .76 1.02 .53 mm/hr
05556 12.40 13.20 14.40 19.30 26.40 29.20 36.60 36.60 36.60 date
05557 1993073 1993073 1993073 1993073 1993073 1993073 1993073 1993073 1993073
05558 Number of rainfall events per following interval time
05559 1 hr 2 hrs 3 hrs 6 hrs 12 hrs 24 hrs 36 hrs 48 hrs 72 hrs
05560 156 126 90 76 59 46 38 29
05561 Number of events with at least the following durations
05562 1 hr 2 hrs 3 hrs 6 hrs 12 hrs 24 hrs 36 hrs 48 hrs 72 hrs
05563 154 88 51 19 4 1 0 0 0
05564 R19931C0003-----Dtain-ID:INVD-----AREHA-A-FEAKs-TPeakDate_hh:mm-----RvM-R-C-----DWfms
05565 COMPUTE API
05566 [API=50.00;APITky=9000;APITdx=9956]
05567 [API=50.00;APITky=9000;APITdx=9956]
05568 R19931C0004-----Dtain-ID:INVD-----AREHA-A-FEAKs-TPeakDate_hh:mm-----RvM-R-C-----DWfms
05569 CONTINUOUS NASHDY 5.0 01:1A1 34.70 .017 1993.1021.9125 142.72 2.56 .000
05570 [Cm 28.4;N=3.00;Tm=1.89]
05571 [IAREC=6.00;SMIN=168.62;SMAX=*****;SK=030]
05572 [InterEventTime=12.00]
05573 R19931C0005-----Dtain-ID:INVD-----AREHA-A-FEAKs-TPeakDate_hh:mm-----RvM-R-C-----DWfms
05574 CONTINUOUS NASHDY 5.0 01:1A1 12.44 .015 1993.0601.1315 144.00 2.59 .000
05575 [Cm 28.4;N=3.00;Tm=1.89]
05576 [IAREC=6.00;SMIN=91.01;SMAX=606.70;SK=030]
05577 [InterEventTime=12.00]
05578 R19931C0006-----Dtain-ID:INVD-----AREHA-A-FEAKs-TPeakDate_hh:mm-----RvM-R-C-----DWfms
05579 CONTINUOUS NASHDY 5.0 01:1A1 2.36 .007 1993.1021.6135 150.67 2.71 .000
05580 [Cm 28.4;N=3.00;Tm=1.89]

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05761 [Start_date= 1994.0401; End_date= 1994.1031]
05762 [DT= 60; hrs= 12; Metric= 305; Dryhrs= 4111; PTO= 514.50]
05763 Maximum average rainfall intensities over
05764 1 hr 2 hrs 3 hrs 6 hrs 12 hrs 24 hrs 36 hrs 48 hrs 72 hrs
05765 22.60 22.60 22.60 22.60 22.60 22.60 22.60 22.60 22.60 mm/hr
05766 19940229 19940229 19940229 19940229 19940229 19940229 19940229 19940229 19940229 date
05767 Number of rainfall events per following interval time
05768 1 hr 2 hrs 3 hrs 6 hrs 12 hrs 24 hrs 36 hrs 48 hrs 72 hrs
05769 124 104 84 64 42 24 18 12 8
05770 Number of events with at least the following durations
05771 1 hr 2 hrs 3 hrs 6 hrs 12 hrs 24 hrs 36 hrs 48 hrs 72 hrs
05772 123 66 42 11 1 0 0 0 0
05773 123 66 42 11 1 0 0 0
05774 R1994.C00003
05775 *****
05776 [API= 50.00; APIkey= 9000; APIkd= 9956]
05777 [API= 50.00; APIkey= 9000; APIkd= 9956]
05778 R1994.C00004 *****
05779 CONTINUOUS NASHYD 5.0 01:NORTH-1 34.70 .045 1994.0627.14135 193.35 376 .000
05780 [Cm= 42.4; Nm= 3.00; Tm= 1.29]
05781 [IARC= 6.00; SMIN=168.62; SMAX=*****; SK= .030]
05782 [InterEventTime= 12.00]
05783 R1994.C00005 *****
05784 CONTINUOUS NASHYD 5.0 01:NORTH-2 12.44 .048 1994.0627.11445 193.76 377 .000
05785 [Cm= 42.4; Nm= 3.00; Tm= 1.29]
05786 [IARC= 6.00; SMIN= 91.01; SMAX=606.70; SK= .030]
05787 [InterEventTime= 12.00]
05788 R1994.C00006 *****
05789 CONTINUOUS NASHYD 5.0 01:HWY-1 2.36 .022 1994.0627.11130 195.71 380 .000
05790 [Cm= 41.1; Nm= 3.00; Tm= 1.46]
05791 [IARC= 6.00; SMIN= 25.21; SMAX=168.09; SK= .030]
05792 [InterEventTime= 12.00]
05793 R1994.C00007 *****
05794 ADD HYD 5.0 02:NORTH-1 34.70 .045 1994.0627.14135 193.35 n/a .000
05795 + 5.0 02:NORTH-2 12.44 .048 1994.0627.11445 193.76 n/a .000
05796 + 5.0 02:HWY-1 2.36 .022 1994.0627.11130 195.71 n/a .000
05797 + 5.0 02:HWY-2 1.21 .002 1994.0627.12125 193.67 n/a .000
05798 R1994.C00008 *****
05799 ROUTE CHANNEL -> 5.0 02:1A 49.51 .009 1994.0627.12120 193.57 n/a .000
05800 [RD= 5.00] out<- 5.0 01:RAC-R 1.21 .002 1994.0627.12125 193.67 n/a .000
05801 [I/S= 478./ /440./035]
05802 [Vmax= .079; Dmax= .132]
05803 R1994.C00009 *****
05804 CONTINUOUS NASHYD 5.0 01:INT-1 4.39 .019 1994.0627.12115 194.05 378 .000
05805 [Cm= 42.4; Nm= 3.00; Tm= 1.46]
05806 [IARC= 6.00; SMIN= 67.24; SMAX=448.24; SK= .030]
05807 [InterEventTime= 12.00]
05808 R1994.C00010 *****
05809 CONTINUOUS NASHYD 5.0 01:INT-2 3.61 .013 1994.0627.11125 193.57 376 .000
05810 [Cm= 41.4; Nm= 3.00; Tm= 1.46]
05811 [IARC= 6.00; SMIN=115.26; SMAX=768.40; SK= .030]
05812 [InterEventTime= 12.00]
05813 R1994.C00011 *****
05814 CONTINUOUS NASHYD 5.0 01:A3A 3.84 .017 1994.0627.12105 193.96 377 .000
05815 [Cm= 42.4; Nm= 3.00; Tm= 1.46]
05816 [IARC= 6.00; SMIN= 73.13; SMAX=487.55; SK= .030]
05817 [InterEventTime= 12.00]
05818 R1994.C00012 *****
05819 CONTINUOUS NASHYD 5.0 01:A3B 5.29 .015 1994.0627.11445 193.44 376 .000
05820 [Cm= 42.4; Nm= 3.00; Tm= 1.46]
05821 [IARC= 6.00; SMIN=141.94; SMAX=946.27; SK= .030]
05822 [InterEventTime= 12.00]
05823 R1994.C00013 *****
05824 CONTINUOUS NASHYD 5.0 01:A3C 1.21 .003 1994.0629.13140 193.32 378 .000
05825 [Cm= 41.0; Nm= 3.00; Tm= 1.87]
05826 [IARC= 6.00; SMIN=179.29; SMAX=*****; SK= .030]
05827 [InterEventTime= 12.00]
05828 R1994.C00014 *****
05829 ROUTE CHANNEL -> 5.0 02:1A 1.21 .001 1994.0629.13140 193.32 n/a .000
05830 [RD= 5.00] out<- 5.0 02:1A 1.21 .002 1994.0627.12125 193.67 n/a .000
05831 [I/S= 500./ /440./035]
05832 [Vmax= .079; Dmax= .132]
05833 R1994.C00015 *****
05834 CONTINUOUS NASHYD 5.0 01:INT-3 5.71 .029 1994.0627.11120 193.96 377 .000
05835 [Cm= 42.4; Nm= 3.00; Tm= 1.46]
05836 [IARC= 6.00; SMIN= 73.13; SMAX=487.55; SK= .030]
05837 [InterEventTime= 12.00]
05838 R1994.C00016 *****
05839 ADD HYD 5.0 02:R1 49.51 .009 1994.0627.12125 193.57 n/a .000
05840 + 5.0 02:R2 1.21 .002 1994.0627.12125 193.67 n/a .000
05841 + 5.0 02:INT-2 3.61 .013 1994.0627.11125 193.57 n/a .000
05842 + 5.0 02:INT-3 1.21 .003 1994.0629.13140 193.32 n/a .000
05843 + 5.0 02:A3A 3.84 .017 1994.0627.12105 193.96 n/a .000
05844 + 5.0 02:A3B 5.29 .015 1994.0627.11445 193.44 n/a .000
05845 + 5.0 02:A3C 1.21 .003 1994.0629.13140 193.32 n/a .000
05846 + 5.0 02:1A 1.21 .001 1994.0629.13140 193.32 n/a .000
05847 R1994.C00017 *****
05848 ROUTE CHANNEL -> 5.0 02:1A 73.56 .187 1994.0627.12105 193.63 n/a .000
05849 [RD= 5.00] out<- 5.0 01:R2 73.56 .187 1994.0627.12115 193.64 n/a .000
05850 [I/S= 396./ /305./035]
05851 [Vmax= .442; Dmax= .132]
05852 R1994.C00018 *****
05853 CONTINUOUS NASHYD 5.0 01:A1A 21.43 .043 1994.0627.12120 193.30 376 .000
05854 [Cm= 36.1; Nm= 3.00; Tm= 1.68]
05855 [IARC= 6.00; SMIN=141.94; SMAX=946.27; SK= .030]
05856 [InterEventTime= 12.00]
05857 R1994.C00019 *****
05858 CONTINUOUS NASHYD 5.0 01:A1B 4.70 .012 1994.0627.12120 193.47 376 .000
05859 [Cm= 44.6; Nm= 3.00; Tm= 1.72]
05860 [IARC= 6.00; SMIN=141.94; SMAX=946.27; SK= .030]
05861 [InterEventTime= 12.00]
05862 R1994.C00020 *****
05863 CONTINUOUS NASHYD 5.0 01:A2 9.14 .059 1994.0627.11130 194.47 378 .000
05864 [Cm= 41.4; Nm= 3.00; Tm= 1.12]
05865 [IARC= 6.00; SMIN= 48.36; SMAX=323.73; SK= .030]
05866 [InterEventTime= 12.00]
05867 R1994.C00021 *****
05868 ADD HYD 5.0 02:R2 73.56 .187 1994.0627.12115 193.64 n/a .000
05869 + 5.0 02:A1A 21.43 .043 1994.0627.12120 193.30 n/a .000
05870 + 5.0 02:A1B 4.70 .012 1994.0627.12120 193.47 n/a .000
05871 + 5.0 02:A2 9.14 .059 1994.0627.11130 194.47 n/a .000
05872 + 5.0 02:R1 49.51 .009 1994.0627.12125 193.57 n/a .000
05873 R1994.C00022 *****
05874 ROUTE CHANNEL -> 5.0 02:1A 108.84 .296 1994.0627.12105 193.63 n/a .000
05875 [RD= 5.00] out<- 5.0 01:R3 108.84 .296 1994.0627.12120 193.63 n/a .000
05876 [I/S= 396./ /305./035]
05877 [Vmax= .442; Dmax= .132]
05878 R1994.C00023 *****
05879 CONTINUOUS NASHYD 5.0 01:SOOUTH-1 20.21 .041 1994.0627.12105 193.27 376 .000
05880 [Cm= 35.1; Nm= 3.00; Tm= 1.40]
05881 [IARC= 6.00; SMIN=204.20; SMAX=*****; SK= .030]
05882 [InterEventTime= 12.00]
05883 R1994.C00024 *****
05884 ADD HYD 5.0 02:R3 108.84 .296 1994.0627.12120 193.63 n/a .000
05885 + 5.0 02:SOOUTH-1 20.21 .041 1994.0627.12105 193.27 n/a .000
05886 + 5.0 02:SOOUTH-2 12.95 .033 1994.0627.12120 193.57 n/a .000
05887 R1994.C00025 *****
05888 ROUTE CHANNEL -> 5.0 02:1A 129.05 .333 1994.0627.12120 193.57 n/a .000
05889 [RD= 5.00] out<- 5.0 01:R4 129.05 .333 1994.0627.12130 193.57 n/a .000
05890 [I/S= 482./ /410./035]
05891 [Vmax= .516; Dmax= .163]
05892 R1994.C00026 *****
05893 CONTINUOUS NASHYD 5.0 01:SOOUTH-2 11.61 .028 1994.0627.11120 193.29 376 .000
05894 [Cm= 36.1; Nm= 3.00; Tm= .96]
05895 [IARC= 6.00; SMIN=191.25; SMAX=*****; SK= .030]
05896 [InterEventTime= 12.00]
05897 R1994.C00027 *****
05898 ADD HYD 5.0 02:R4 129.05 .330 1994.0627.12130 193.57 n/a .000
05899 + 5.0 02:SOOUTH-2 11.61 .028 1994.0627.11120 193.29 n/a .000
05900 + 5.0 02:SOOUTH-3 14.99 .037 1994.0627.11145 193.35 n/a .000
05901 R1994.C00028 *****
05902 ROUTE CHANNEL -> 5.0 02:1A 140.66 .154 1994.0627.12120 193.55 n/a .000
05903 [RD= 5.00] out<- 5.0 01:R5 140.66 .154 1994.0627.12130 193.55 n/a .000
05904 [I/S= 500./ /440./035]
05905 [Vmax= .079; Dmax= .132]
05906 R1994.C00029 *****
05907 CONTINUOUS NASHYD 5.0 01:SOOUTH-3 7.98 .025 1994.0627.11120 193.44 376 .000
05908 [Cm= 42.6; Nm= 3.00; Tm= .89]
05909 [IARC= 6.00; SMIN=141.94; SMAX=946.27; SK= .030]
05910 [InterEventTime= 12.00]
05911 R1994.C00030 *****
05912 ADD HYD 5.0 02:R5 140.66 .154 1994.0627.12120 193.55 n/a .000
05913 + 5.0 02:SOOUTH-3 7.98 .025 1994.0627.11120 193.44 n/a .000
05914 + 5.0 02:SOOUTH-4 14.99 .037 1994.0627.11145 193.35 n/a .000
05915 R1994.C00031 *****
05916 SAVE HD 5.0 01:1A 148.64 .372 1994.0627.12125 193.55 n/a .000
05917 [I/S= 181./ /500./035]
05918 [Vmax= .181; Dmax= .132]
05919 R1994.C00032 *****
05920 ROUTE CHANNEL -> 5.0 01:R6 148.64 .372 1994.0627.12125 193.55 n/a .000
05921 [RD= 5.00] out<- 5.0 01:R6 148.64 .372 1994.0627.12135 193.55 n/a .000
05922 [I/S= 482./ /410./035]
05923 [Vmax= .541; Dmax= .170]
05924 R1994.C00033 *****
05925 CONTINUOUS NASHYD 5.0 01:SOOUTH-4 1.03 .017 1994.0627.11145 193.35 376 .000
05926 [Cm= 35.1; Nm= 3.00; Tm= 1.23]
05927 [IARC= 6.00; SMIN=191.25; SMAX=*****; SK= .030]
05928 [InterEventTime= 12.00]
05929 R1994.C00034 *****
05930 ADD HYD 5.0 02:R6 148.10 .366 1994.0627.12130 193.55 n/a .000
05931 + 5.0 02:SOOUTH-4 14.99 .037 1994.0627.11145 193.35 n/a .000
05932 + 5.0 02:SOOUTH-5 14.99 .037 1994.0627.11145 193.35 n/a .000
05933 + 5.0 02:SOOUTH-6 14.99 .037 1994.0627.11145 193.35 n/a .000
05934 *****
05935 *****
05936 *****
05937 *****
05938 *****
05939 *****
05940 *****

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06121 R1995C0003 -----DtlIn-ID-INVD-----AREAh-QFEARcms-TpeakDate_hh:mm-----RvM-R-C-----DWfCms
06122 ADD HYD + 5.0 02:HYD-1 3.98 .014 1995.0603.10.205 211 n/a .000
06123 SIM# + 5.0 02:HYD-1 3.98 .014 1995.0603.10.205 211 n/a .000
06124 # CONTINUOUS RAINFALL DATA
06125 # [I/S]= 5.01 out<- 148.64 1.436 1995.0603.10.205 211 n/a .000
06126 # [I/S]= 5.01 out<- 148.64 1.436 1995.0603.10.205 211 n/a .000
06127 # (Vmax =.704;Dmax=.460)
06128 remark:J6-BearBrook Tributary Upstream of Thunder Road Crossing
06129 R1995C00032 -----DtlIn-ID-INVD-----AREAh-QFEARcms-TpeakDate_hh:mm-----RvM-R-C-----DWfCms
06130 ROUTE CHANNEL -> 5.0 02:HYD-1 148.64 1.436 1995.0603.10.205 211 n/a .000
06131 # [RD7= 5.0] out<- 148.64 1.436 1995.0603.10.205 211 n/a .000
06132 # [I/S]= 5.01 out<- 148.64 1.436 1995.0603.10.205 211 n/a .000
06133 # (Vmax =.704;Dmax=.460)
06134 CONTINUOUS NASHYD 5.0 01:SHR-4 34.33 .039 1995.0603.9.400 202.02 487 .000
06135 # [C# 39.5; N= 3.00; T= 1.23]
06136 # [IAREC= 6.00; SMIN=16.62; SMAX=966.27;] SK=.030
06137 # [InterEventTime= 12.00]
06138 R1995C00034 -----DtlIn-ID-INVD-----AREAh-QFEARcms-TpeakDate_hh:mm-----RvM-R-C-----DWfCms
06139 ADD HYD + 5.0 02:HYD-1 14.99 .153 1995.0603.9.400 202.02 487 .000
06140 SIM# + 5.0 02:SHR-4 14.99 .153 1995.0603.9.400 202.02 487 .000
06141 # [I/S]= 5.01 Total 163.63 1.576 1995.0603.10.204 95 n/a .000
06142 # [IAREC= 6.00; SMIN=16.62; SMAX=966.27;] SK=.030
06143 # [InterEventTime= 12.00]
06144 # CONTINUOUS RAINFALL DATA
06145 # [I/S]= 5.01 out<- 163.63 1.576 1995.0603.10.204 95 n/a .000
06146 # (Vmax =.704;Dmax=.460)
06147 # CONTINUOUS RAINFALL DATA
06148 # [I/S]= 5.01 out<- 163.63 1.576 1995.0603.10.204 95 n/a .000
06149 # STORM#
06150 # [IAREC= 6.00; SMIN=16.62; SMAX=966.27;] SK=.030
06151 #** END OF RUN : 1995
06152
06153
06154
06155
06156
06157
06158
06159 RUN#COMMAND#
06160 R1995C00001 -----DtlIn-ID-INVD-----AREAh-QFEARcms-TpeakDate_hh:mm-----RvM-R-C-----DWfCms
06161 START (ITER= .00 hrs on 19950401)
06162 # [MSET= 2 (1=Imperial, 2=metric output)]
06163 # [NFORM= 0]
06164 # [DATE= 1995 04 01]
06165 # [TIME= 12:00]
06166 # [IAREC= 6.00; SMIN=16.62; SMAX=966.27;] SK=.030
06167 # [InterEventTime= 12.00]
06168 # Project Name: [THUNDER ROAD] Project Number: [2128]
06169 # Date : 04-01-2001
06170 # Modeler : [J.B]
06171 # Company : JFSaInc.
06172 # License # : 2549237
06173 # [IAREC= 6.00; SMIN=16.62; SMAX=966.27;] SK=.030
06174 # [InterEventTime= 12.00]
06175 # Ottawa International Airport - April 1st to October 31st
06176 # [IAREC= 6.00; SMIN=16.62; SMAX=966.27;] SK=.030
06177 # [InterEventTime= 12.00]
06178 R1995C0002 -----DtlIn-ID-INVD-----AREAh-QFEARcms-TpeakDate_hh:mm-----RvM-R-C-----DWfCms
06179 * READ ARE DATA
06180 # [IAREC= 6.00; SMIN=16.62; SMAX=966.27;] SK=.030
06181 # [Start_date= 1995.0401; End_date= 1995.1031]
06182 # [DTE= 60; Length= 492; Metric= 200; Drydry= 4086; PTO= 426.50]
06183 # Maximum average rainfall intensities over
06184 1 hr 2 hrs 3 hrs 6 hrs 12 hrs 24 hrs 36 hrs 48 hrs 72 hrs
06185 18.50 12.50 9.50 6.50 4.50 3.00 2.00 1.50 1.00 mm/hr
06186 18.50 27.10 27.10 32.50 35.10 38.50 45.10 47.50 50.30 mm/hr
06187 # [IAREC= 6.00; SMIN=16.62; SMAX=966.27;] SK=.030
06188 # Number of rainfall events per following interval time
06189 1 hr 2 hrs 3 hrs 6 hrs 12 hrs 24 hrs 36 hrs 48 hrs 72 hrs
06190 11 8 7 6 5 3 2 2 2
06191 # Number of events with at least the following durations
06192 1 hr 2 hrs 3 hrs 6 hrs 12 hrs 24 hrs 36 hrs 48 hrs 72 hrs
06193 110 63 42 14 1 0 0 0 0
06194 R1995C00003 -----DtlIn-ID-INVD-----AREAh-QFEARcms-TpeakDate_hh:mm-----RvM-R-C-----DWfCms
06195 COMPUTE API
06196 # [API= 50.00; APIky= 9000; APIkd= 9956]
06197 # [API= 50.00; APIky= 9000; APIkd= 9956]
06198 R1995C00004 -----DtlIn-ID-INVD-----AREAh-QFEARcms-TpeakDate_hh:mm-----RvM-R-C-----DWfCms
06199 CONTINUOUS NASHYD 5.0 01:SHR-1 34.70 .039 1995.0731.20.400 115.53 271 .000
06200 # [C# 41.4; N= 3.00; T= 1.23]
06201 # [IAREC= 6.00; SMIN=16.62; SMAX=966.27;] SK=.030
06202 # [InterEventTime= 12.00]
06203 R1995C00005 -----DtlIn-ID-INVD-----AREAh-QFEARcms-TpeakDate_hh:mm-----RvM-R-C-----DWfCms
06204 CONTINUOUS NASHYD 5.0 01:SHR-2 12.44 .045 1995.0731.16.400 116.75 274 .000
06205 # [C# 42.4; N= 3.00; T= 1.23]
06206 # [IAREC= 6.00; SMIN=16.62; SMAX=966.27;] SK=.030
06207 # [InterEventTime= 12.00]
06208 R1995C00006 -----DtlIn-ID-INVD-----AREAh-QFEARcms-TpeakDate_hh:mm-----RvM-R-C-----DWfCms
06209 CONTINUOUS NASHYD 5.0 01:SHR-1 2.36 .023 1995.0731.16.400 116.75 274 .000
06210 # [C# 41.7; N= 3.00; T= 1.23]
06211 # [IAREC= 6.00; SMIN=16.62; SMAX=966.27;] SK=.030
06212 # [InterEventTime= 12.00]
06213 R1995C00007 -----DtlIn-ID-INVD-----AREAh-QFEARcms-TpeakDate_hh:mm-----RvM-R-C-----DWfCms
06214 ADD HYD + 5.0 02:SHR-1 34.70 .039 1995.0731.20.400 115.53 n/a .000
06215 # [RD7= 5.0] out<- 32.98 1.60 1995.0731.16.400 116.75 n/a .000
06216 # [I/S]= 5.01 out<- 2.36 .023 1995.0731.16.400 116.75 n/a .000
06217 # [I/S]= 5.01 out<- 49.51 .086 1995.0731.16.400 116.75 n/a .000
06218 R1995C00008 -----DtlIn-ID-INVD-----AREAh-QFEARcms-TpeakDate_hh:mm-----RvM-R-C-----DWfCms
06219 ROUTE CHANNEL -> 5.0 02:AC 49.51 .086 1995.0731.16.400 116.75 n/a .000
06220 # [RD7= 5.0] out<- 49.51 .086 1995.0731.16.400 116.75 n/a .000
06221 # [I/S]= 5.01 out<- 49.51 .086 1995.0731.16.400 116.75 n/a .000
06222 # (Vmax =.704;Dmax=.460)
06223 R1995C00009 -----DtlIn-ID-INVD-----AREAh-QFEARcms-TpeakDate_hh:mm-----RvM-R-C-----DWfCms
06224 CONTINUOUS NASHYD 5.0 01:SHR-1 4.39 .017 1995.0731.17.000 117.62 276 .000
06225 # [C# 41.4; N= 3.00; T= 1.23]
06226 # [IAREC= 6.00; SMIN=16.62; SMAX=966.27;] SK=.030
06227 # [InterEventTime= 12.00]
06228 R1995C00010 -----DtlIn-ID-INVD-----AREAh-QFEARcms-TpeakDate_hh:mm-----RvM-R-C-----DWfCms
06229 CONTINUOUS NASHYD 5.0 01:SHR-2 3.61 .031 1995.0731.16.400 116.21 272 .000
06230 # [C# 41.4; N= 3.00; T= 1.23]
06231 # [IAREC= 6.00; SMIN=16.62; SMAX=966.27;] SK=.030
06232 # [InterEventTime= 12.00]
06233 R1995C00011 -----DtlIn-ID-INVD-----AREAh-QFEARcms-TpeakDate_hh:mm-----RvM-R-C-----DWfCms
06234 CONTINUOUS NASHYD 5.0 01:SHR-3 3.84 .015 1995.0731.16.400 117.36 275 .000
06235 # [C# 41.4; N= 3.00; T= 1.23]
06236 # [IAREC= 6.00; SMIN=16.62; SMAX=966.27;] SK=.030
06237 # [InterEventTime= 12.00]
06238 R1995C00012 -----DtlIn-ID-INVD-----AREAh-QFEARcms-TpeakDate_hh:mm-----RvM-R-C-----DWfCms
06239 CONTINUOUS NASHYD 5.0 01:SHR-1 5.29 .039 1995.0731.16.400 115.82 272 .000
06240 # [C# 41.4; N= 3.00; T= 1.23]
06241 # [IAREC= 6.00; SMIN=16.62; SMAX=966.27;] SK=.030
06242 # [InterEventTime= 12.00]
06243 R1995C00013 -----DtlIn-ID-INVD-----AREAh-QFEARcms-TpeakDate_hh:mm-----RvM-R-C-----DWfCms
06244 CONTINUOUS NASHYD 5.0 01:SHR-4 1.21 .003 1995.0731.16.400 115.44 271 .000
06245 # [C# 41.4; N= 3.00; T= 1.23]
06246 # [IAREC= 6.00; SMIN=16.62; SMAX=966.27;] SK=.030
06247 # [InterEventTime= 12.00]
06248 R1995C00014 -----DtlIn-ID-INVD-----AREAh-QFEARcms-TpeakDate_hh:mm-----RvM-R-C-----DWfCms
06249 ROUTE CHANNEL -> 5.0 02:AC 1.21 .003 1995.0731.16.400 115.44 n/a .000
06250 # [RD7= 5.0] out<- 1.21 .003 1995.0731.16.400 115.44 n/a .000
06251 # [I/S]= 5.01 out<- 1.21 .003 1995.0731.16.400 115.44 n/a .000
06252 # (Vmax =.704;Dmax=.460)
06253 R1995C00015 -----DtlIn-ID-INVD-----AREAh-QFEARcms-TpeakDate_hh:mm-----RvM-R-C-----DWfCms
06254 CONTINUOUS NASHYD 5.0 01:SHR-3 5.71 .031 1995.0731.16.400 117.36 275 .000
06255 # [C# 41.4; N= 3.00; T= 1.23]
06256 # [IAREC= 6.00; SMIN=16.62; SMAX=966.27;] SK=.030
06257 # [InterEventTime= 12.00]
06258 R1995C00016 -----DtlIn-ID-INVD-----AREAh-QFEARcms-TpeakDate_hh:mm-----RvM-R-C-----DWfCms
06259 ADD HYD + 5.0 02:HYD 49.51 .086 1995.0731.17.000 116.78 n/a .000
06260 # [RD7= 5.0] out<- 49.51 .086 1995.0731.17.000 116.78 n/a .000
06261 # [I/S]= 5.01 out<- 3.61 .031 1995.0731.16.400 116.21 n/a .000
06262 # [I/S]= 5.01 out<- 5.71 .031 1995.0731.16.400 117.36 n/a .000
06263 # [I/S]= 5.01 out<- 3.84 .015 1995.0731.16.400 117.36 n/a .000
06264 # [I/S]= 5.01 out<- 5.29 .039 1995.0731.16.400 115.82 n/a .000
06265 # [I/S]= 5.01 out<- 1.21 .003 1995.0731.16.400 115.44 n/a .000
06266 # [I/S]= 5.01 out<- 73.56 .167 1995.0731.16.400 116.38 n/a .000
06267 R1995C00017 -----DtlIn-ID-INVD-----AREAh-QFEARcms-TpeakDate_hh:mm-----RvM-R-C-----DWfCms
06268 ROUTE CHANNEL -> 5.0 02:AC 73.56 .167 1995.0731.16.400 116.38 n/a .000
06269 # [RD7= 5.0] out<- 73.56 .167 1995.0731.16.400 116.38 n/a .000
06270 # [I/S]= 5.01 out<- 73.56 .167 1995.0731.16.400 116.38 n/a .000
06271 # (Vmax =.425;Dmax=.125)
06272 R1995C00018 -----DtlIn-ID-INVD-----AREAh-QFEARcms-TpeakDate_hh:mm-----RvM-R-C-----DWfCms
06273 CONTINUOUS NASHYD 5.0 01:SHR-1 21.43 .035 1995.0731.17.000 115.36 270 .000
06274 # [C# 36.1; N= 3.00; T= 1.23]
06275 # [IAREC= 6.00; SMIN=16.62; SMAX=966.27;] SK=.030
06276 # [InterEventTime= 12.00]
06277 R1995C00019 -----DtlIn-ID-INVD-----AREAh-QFEARcms-TpeakDate_hh:mm-----RvM-R-C-----DWfCms
06278 CONTINUOUS NASHYD 5.0 01:SHR-4 4.70 .010 1995.0731.17.000 115.92 272 .000
06279 # [C# 44.6; N= 3.00; T= 1.23]
06280 # [IAREC= 6.00; SMIN=16.62; SMAX=966.27;] SK=.030
06281 # [InterEventTime= 12.00]
06282 R1995C00020 -----DtlIn-ID-INVD-----AREAh-QFEARcms-TpeakDate_hh:mm-----RvM-R-C-----DWfCms
06283 CONTINUOUS NASHYD 5.0 01:SHR-1 9.14 .060 1995.0731.16.300 118.82 279 .000
06284 # [C# 64.1; N= 3.00; T= 1.23]
06285 # [IAREC= 6.00; SMIN=16.62; SMAX=966.27;] SK=.030
06286 # [InterEventTime= 12.00]
06287 R1995C00021 -----DtlIn-ID-INVD-----AREAh-QFEARcms-TpeakDate_hh:mm-----RvM-R-C-----DWfCms
06288 ADD HYD + 5.0 02:HYD 73.56 .167 1995.0731.16.400 116.38 n/a .000
06289 # [RD7= 5.0] out<- 73.56 .167 1995.0731.16.400 116.38 n/a .000
06290 # [I/S]= 5.01 out<- 21.43 .035 1995.0731.17.000 115.36 n/a .000
06291 # [I/S]= 5.01 out<- 4.70 .010 1995.0731.17.000 115.92 n/a .000
06292 # [I/S]= 5.01 out<- 9.14 .060 1995.0731.16.300 118.82 n/a .000
06293 R1995C00022 -----DtlIn-ID-INVD-----AREAh-QFEARcms-TpeakDate_hh:mm-----RvM-R-C-----DWfCms
06294 ROUTE CHANNEL -> 5.0 02:AC 108.84 .264 1995.0731.16.400 116.36 n/a .000
06295 # [RD7= 5.0] out<- 108.84 .264 1995.0731.16.400 116.36 n/a .000
06296 # [I/S]= 5.01 out<- 73.56 .167 1995.0731.16.400 116.36 n/a .000
06297 # (Vmax =.704;Dmax=.460)
06298 R1995C00023 -----DtlIn-ID-INVD-----AREAh-QFEARcms-TpeakDate_hh:mm-----RvM-R-C-----DWfCms
06299 CONTINUOUS NASHYD 5.0 01:SHR-1 20.21 .035 1995.0731.16.400 115.27 270 .000
06300 # [C# 35.5; N= 3.00; T= 1.40]

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06481 (Vmax :265;Dmax: 12.00)
06482 R1997:C00018-DTAIN-ID:HYND-AREHA-A-PEAFCms-TpeakDate_hh:mm-RvM-R-C--DWFCms
06483 CONTINUOUS NASHDY 5.0 01:18A 21.43 .010 1997.0503.15:40 95.08 286 .000
06484 [CM 36.1; N= 3.00; Tm= .96]
06485 [IAREC 6.00; DMIN=141.94; SMAX=946.27; SK= .030]
06486 [InterEventTime= 12.00]
06487 R1997:C00019-DTAIN-ID:HYND-AREHA-A-PEAFCms-TpeakDate_hh:mm-RvM-R-C--DWFCms
06488 CONTINUOUS NASHDY 5.0 01:18A 4.70 .003 1997.0503.15:40 95.32 287 .000
06489 [CM 44.6; N= 3.00; Tm= 1.72]
06490 [IAREC 6.00; DMIN=896.47; SK= .030]
06491 [InterEventTime= 12.00]
06492 R1997:C00020-DTAIN-ID:HYND-AREHA-A-PEAFCms-TpeakDate_hh:mm-RvM-R-C--DWFCms
06493 CONTINUOUS NASHDY 5.0 01:18A 9.14 .016 1997.0622.4:50 96.66 291 .000
06494 [CM 36.1; N= 3.00; Tm= 1.12]
06495 [IAREC 6.00; DMIN=323.73; SK= .030]
06496 [InterEventTime= 12.00]
06497 R1997:C00021-DTAIN-ID:HYND-AREHA-A-PEAFCms-TpeakDate_hh:mm-RvM-R-C--DWFCms
06498 ADD HYD + 5.0 02:R2 73.56 .047 1997.0503.15:40 95.34 n/a .000
06499 + 5.0 02:IA 21.43 .010 1997.0503.15:40 95.08 n/a .000
06500 ROUTE CHANNEL + 5.0 02:INT-1 20.21 .010 1997.0503.15:25 95.03 n/a .000
06501 + 5.0 02:IA 9.14 .016 1997.0622.4:50 96.66 n/a .000
06502 SIM= 5.0 01:24 108.84 .074 1997.0503.15:20 95.23 n/a .000
06503 R1997:C00022-DTAIN-ID:HYND-AREHA-A-PEAFCms-TpeakDate_hh:mm-RvM-R-C--DWFCms
06504 ROUTE CHANNEL -> 5.0 02:23 108.84 .074 1997.0503.15:20 95.23 n/a .000
06505 + [RDY 5.00] out-> 5.0 01:R3 108.84 .072 1997.0503.15:20 95.23 n/a .000
06506 [L/S/N= 396./ /305./035]
06507 (Vmax :297;Dmax: 1.52)
06508 R1997:C00023-DTAIN-ID:HYND-AREHA-A-PEAFCms-TpeakDate_hh:mm-RvM-R-C--DWFCms
06509 CONTINUOUS NASHDY 5.0 01:SOOUTH-1 20.21 .010 1997.0503.15:25 95.03 286 .000
06510 [CM 35.4; N= 3.00; Tm= .96]
06511 [IAREC 6.00; DMIN=204.20; SMAX=****; SK= .030]
06512 [InterEventTime= 12.00]
06513 R1997:C00024-DTAIN-ID:HYND-AREHA-A-PEAFCms-TpeakDate_hh:mm-RvM-R-C--DWFCms
06514 ADD HYD + 5.0 02:R3 108.84 .072 1997.0503.15:20 95.23 n/a .000
06515 + 5.0 02:SOOUTH-1 20.21 .010 1997.0503.15:25 95.03 n/a .000
06516 SIM= 5.0 01:24 129.05 .082 1997.0503.15:45 95.45 n/a .000
06517 R1997:C00025-DTAIN-ID:HYND-AREHA-A-PEAFCms-TpeakDate_hh:mm-RvM-R-C--DWFCms
06518 ROUTE CHANNEL -> 5.0 02:24 129.05 .082 1997.0503.15:45 95.45 n/a .000
06519 + [RDY 5.00] out-> 5.0 01:R4 129.05 .080 1997.0503.16:05 95.46 n/a .000
06520 [L/S/N= 482./ /410./035]
06521 (Vmax :344;Dmax: 1.49)
06522 R1997:C00026-DTAIN-ID:HYND-AREHA-A-PEAFCms-TpeakDate_hh:mm-RvM-R-C--DWFCms
06523 CONTINUOUS NASHDY 5.0 01:SOOUTH-2 11.61 .007 1997.0622.4:45 95.08 286 .000
06524 [CM 36.1; N= 3.00; Tm= .96]
06525 [IAREC 6.00; DMIN=896.47; SK= .030]
06526 [InterEventTime= 12.00]
06527 R1997:C00027-DTAIN-ID:HYND-AREHA-A-PEAFCms-TpeakDate_hh:mm-RvM-R-C--DWFCms
06528 ADD HYD + 5.0 02:R4 129.05 .080 1997.0503.16:05 95.46 n/a .000
06529 + 5.0 02:SOOUTH-2 11.61 .007 1997.0622.4:45 95.08 n/a .000
06530 SIM= 5.0 01:24 140.66 .085 1997.0503.16:00 95.42 n/a .000
06531 R1997:C00028-DTAIN-ID:HYND-AREHA-A-PEAFCms-TpeakDate_hh:mm-RvM-R-C--DWFCms
06532 ROUTE CHANNEL -> 5.0 02:25 140.66 .085 1997.0503.16:00 95.42 n/a .000
06533 + [RDY 5.00] out-> 5.0 01:R5 140.66 .085 1997.0503.16:05 95.42 n/a .000
06534 [L/S/N= 181./ /500./035]
06535 (Vmax :324;Dmax: 1.52)
06536 R1997:C00029-DTAIN-ID:HYND-AREHA-A-PEAFCms-TpeakDate_hh:mm-RvM-R-C--DWFCms
06537 CONTINUOUS NASHDY 5.0 01:SOOUTH-3 7.98 .007 1997.0622.4:40 95.27 287 .000
06538 [CM 42.6; N= 3.00; Tm= .89]
06539 [IAREC 6.00; DMIN=141.94; SMAX=946.27; SK= .030]
06540 [InterEventTime= 12.00]
06541 R1997:C00030-DTAIN-ID:HYND-AREHA-A-PEAFCms-TpeakDate_hh:mm-RvM-R-C--DWFCms
06542 ADD HYD + 5.0 02:R5 148.64 .089 1997.0503.16:15 95.42 n/a .000
06543 + 5.0 02:SOOUTH-3 7.98 .007 1997.0622.4:40 95.27 n/a .000
06544 SIM= 5.0 01:26 148.64 .089 1997.0503.16:05 95.42 n/a .000
06545 R1997:C00031-DTAIN-ID:HYND-AREHA-A-PEAFCms-TpeakDate_hh:mm-RvM-R-C--DWFCms
06546 SAVE HYD + 5.0 01:26 148.64 .089 1997.0503.16:05 95.42 n/a .000
06547 [Time :16.1997]
06548 remark:36-BearBrook Tributary Upstream of Thunder Road Crossing
06549 R1997:C00032-DTAIN-ID:HYND-AREHA-A-PEAFCms-TpeakDate_hh:mm-RvM-R-C--DWFCms
06550 ROUTE CHANNEL -> 5.0 01:R6 148.64 .089 1997.0503.16:15 95.42 n/a .000
06551 + [RDY 5.00] out-> 5.0 01:R6 148.64 .088 1997.0503.16:15 95.42 n/a .000
06552 [L/S/N= 323./ /440./035]
06553 (Vmax :363;Dmax: 1.52)
06554 R1997:C00033-DTAIN-ID:HYND-AREHA-A-PEAFCms-TpeakDate_hh:mm-RvM-R-C--DWFCms
06555 CONTINUOUS NASHDY 5.0 01:SOOUTH-4 14.89 .009 1997.0503.15:20 95.16 287 .000
06556 [CM 39.5; N= 3.00; Tm= 1.23]
06557 [IAREC 6.00; DMIN=181.09; SMAX=****; SK= .030]
06558 [InterEventTime= 12.00]
06559 R1997:C00034-DTAIN-ID:HYND-AREHA-A-PEAFCms-TpeakDate_hh:mm-RvM-R-C--DWFCms
06560 ADD HYD + 5.0 02:R6 149.29 .089 1997.0503.15:20 95.16 n/a .000
06561 + 5.0 02:SOOUTH-4 14.89 .009 1997.0503.15:20 95.16 n/a .000
06562 SIM= 5.0 01:26 149.29 .089 1997.0503.15:20 95.29 n/a .000
06563 # *****
06564 # *****
06565 # *****
06566 # *****
06567 # *****
06568 # *****
06569 # *****
06570 # *****
06571 # *****
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06659 # *****
06660 # *****

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06841 [IAREC= 6.00; SMIN= 25.21; SMAX=168.09; SK= .030]
06842 [InterEventTime= 12.00]
06843 R1999-C0007 -----Dtain-ID:INHYD-----AREAha-QFEARgs-TpeakDate\_hh:mm-----Rvmm-R.C-----DWfms
06844 ADD HYD + 5.0 02:18R1-1 34.70 .036 1999.0906.13:00 156.36 n/a .000
06845 + 5.0 02:18R1-2 12.84 .040 1999.0906.10:25 156.61 n/a .000
06846 + 5.0 02:18R1-3 2.36 .020 1999.0906.10:15 159.00 n/a .000
06847 S1M = 49.51 49.51 .089 1999.0906.10:40 156.60 n/a .000
06848 R1999-C0008 -----Dtain-ID:INHYD-----AREAha-QFEARgs-TpeakDate\_hh:mm-----Rvmm-R.C-----DWfms
06849 ROUTE CHANNEL -> 5.0 02:21 49.51 .089 1999.0906.10:40 156.60 n/a .000
06850 [RDY= 5.00] out- 5.0 01:26 49.51 .089 1999.0906.10:40 156.60 n/a .000
06851 [I/S= 478./ /440./035]
06852 [Vmax= 375;Dmax= 35]
06853 R1999-C0009 -----Dtain-ID:INHYD-----AREAha-QFEARgs-TpeakDate\_hh:mm-----Rvmm-R.C-----DWfms
06854 CONTINUOUS NASHDY 5.0 01:18R1-1 4.39 .017 1999.0906.10:45 157.14 .370 .000
06855 [CM= 64.1; N= 3.00; Tp= .98]
06856 [IAREC= 6.00; SMIN= 67.24; SMAX=448.24; SK= .030]
06857 [InterEventTime= 12.00]
06858 R1999-C0010 -----Dtain-ID:INHYD-----AREAha-QFEARgs-TpeakDate\_hh:mm-----Rvmm-R.C-----DWfms
06859 CONTINUOUS NASHDY 5.0 01:18R1-2 3.61 .010 1999.0906.10:15 156.61 .369 .000
06860 [CM= 48.4; N= 3.00; Tp= 1.48]
06861 [IAREC= 6.00; SMIN=11.26; SMAX=768.40; SK= .030]
06862 [InterEventTime= 12.00]
06863 R1999-C0011 -----Dtain-ID:INHYD-----AREAha-QFEARgs-TpeakDate\_hh:mm-----Rvmm-R.C-----DWfms
06864 CONTINUOUS NASHDY 5.0 01:18R1 3.84 .014 1999.0906.10:35 157.04 .370 .000
06865 [CM= 42.4; N= 3.00; Tp= 1.91]
06866 [IAREC= 6.00; SMIN= 73.13; SMAX=487.55; SK= .030]
06867 [InterEventTime= 12.00]
06868 R1999-C0012 -----Dtain-ID:INHYD-----AREAha-QFEARgs-TpeakDate\_hh:mm-----Rvmm-R.C-----DWfms
06869 CONTINUOUS NASHDY 5.0 01:18R1 5.29 .012 1999.0906.10:25 156.46 .369 .000
06870 [CM= 44.4; N= 3.00; Tp= 1.46]
06871 [IAREC= 6.00; SMIN=141.94; SMAX=946.27; SK= .030]
06872 [InterEventTime= 12.00]
06873 R1999-C0013 -----Dtain-ID:INHYD-----AREAha-QFEARgs-TpeakDate\_hh:mm-----Rvmm-R.C-----DWfms
06874 CONTINUOUS NASHDY 5.0 01:18R1 1.21 .002 1999.0906.10:15 156.33 .368 .000
06875 [CM= 21.4; N= 3.00; Tp= .87]
06876 [IAREC= 6.00; SMIN=179.29; SMAX=\*\*\*\*\*; SK= .030]
06877 [InterEventTime= 12.00]
06878 R1999-C0014 -----Dtain-ID:INHYD-----AREAha-QFEARgs-TpeakDate\_hh:mm-----Rvmm-R.C-----DWfms
06879 ROUTE CHANNEL -> 5.0 02:1AC 1.21 .002 1999.0906.10:15 156.33 n/a .000
06880 [RDY= 5.00] out- 5.0 02:1AC-R 1.21 .002 1999.0906.10:15 156.33 n/a .000
06881 [I/S= 500./ /440./035]
06882 [Vmax= 375;Dmax= 35]
06883 R1999-C0015 -----Dtain-ID:INHYD-----AREAha-QFEARgs-TpeakDate\_hh:mm-----Rvmm-R.C-----DWfms
06884 CONTINUOUS NASHDY 5.0 01:18R1-3 5.71 .024 1999.0906. 9:40 157.04 .370 .000
06885 [CM= 38.4; N= 3.00; Tp= 1.91]
06886 [IAREC= 6.00; SMIN= 73.13; SMAX=487.55; SK= .030]
06887 [InterEventTime= 12.00]
06888 R1999-C0016 -----Dtain-ID:INHYD-----AREAha-QFEARgs-TpeakDate\_hh:mm-----Rvmm-R.C-----DWfms
06889 ADD HYD + 5.0 02:2R1 49.51 .084 1999.0906.10:55 156.60 n/a .000
06890 + 5.0 02:18R1-2 4.39 .017 1999.0906.10:45 157.14 n/a .000
06891 + 5.0 02:18R1-3 2.36 .020 1999.0906.10:15 159.00 n/a .000
06892 + 5.0 02:18R1-4 12.84 .040 1999.0906.10:25 156.61 n/a .000
06893 + 5.0 02:18R1-5 2.36 .020 1999.0906.10:15 159.00 n/a .000
06894 + 5.0 02:18R1-6 4.39 .017 1999.0906.10:45 157.14 n/a .000
06895 + 5.0 02:18R1-7 2.36 .020 1999.0906.10:15 159.00 n/a .000
06896 + 5.0 02:18R1-8 4.39 .017 1999.0906.10:45 157.14 n/a .000
06897 S1M = 49.51 49.51 .089 1999.0906.10:40 156.60 n/a .000
06898 ROUTE CHANNEL -> 5.0 02:22 73.56 .159 1999.0906.10:35 156.68 n/a .000
06899 [RDY= 5.00] out- 5.0 01:82 73.56 .158 1999.0906.10:45 156.68 n/a .000
06900 [I/S= 478./ /440./035]
06901 [Vmax= 375;Dmax= 35]
06902 R1999-C0017 -----Dtain-ID:INHYD-----AREAha-QFEARgs-TpeakDate\_hh:mm-----Rvmm-R.C-----DWfms
06903 CONTINUOUS NASHDY 5.0 01:18R1 21.43 .034 1999.0906.10:45 156.30 .368 .000
06904 [CM= 36.1; N= 3.00; Tp= 1.61]
06905 [IAREC= 6.00; SMIN=48.82; SMAX=946.27; SK= .030]
06906 [InterEventTime= 12.00]
06907 R1999-C0018 -----Dtain-ID:INHYD-----AREAha-QFEARgs-TpeakDate\_hh:mm-----Rvmm-R.C-----DWfms
06908 CONTINUOUS NASHDY 5.0 01:18R1 4.70 .010 1999.0906.10:50 156.50 .369 .000
06909 [CM= 44.4; N= 3.00; Tp= 1.72]
06910 [IAREC= 6.00; SMIN=18.84; SMAX=896.47; SK= .030]
06911 [InterEventTime= 12.00]
06912 R1999-C0019 -----Dtain-ID:INHYD-----AREAha-QFEARgs-TpeakDate\_hh:mm-----Rvmm-R.C-----DWfms
06913 CONTINUOUS NASHDY 5.0 01:18R1 9.14 .050 1999.0906.10:15 157.60 .371 .000
06914 [CM= 64.1; N= 3.00; Tp= 1.12]
06915 [IAREC= 6.00; SMIN= 48.82; SMAX=323.73; SK= .030]
06916 [InterEventTime= 12.00]
06917 R1999-C0020 -----Dtain-ID:INHYD-----AREAha-QFEARgs-TpeakDate\_hh:mm-----Rvmm-R.C-----DWfms
06918 ADD HYD + 5.0 02:18R1 73.56 .158 1999.0906.10:45 156.68 n/a .000
06919 + 5.0 02:18R1-2 21.43 .034 1999.0906.10:45 156.60 n/a .000
06920 + 5.0 02:18R1-3 4.70 .010 1999.0906.10:50 156.50 n/a .000
06921 + 5.0 02:18R1-4 9.14 .050 1999.0906.10:15 157.60 n/a .000
06922 + 5.0 02:18R1-5 9.14 .050 1999.0906.10:15 157.60 n/a .000
06923 + 5.0 02:18R1-6 9.14 .050 1999.0906.10:15 157.60 n/a .000
06924 + 5.0 02:18R1-7 9.14 .050 1999.0906.10:15 157.60 n/a .000
06925 ROUTE CHANNEL -> 5.0 02:23 108.84 .250 1999.0906.10:35 156.67 n/a .000
06926 [RDY= 5.00] out- 5.0 01:83 108.84 .247 1999.0906.10:50 156.67 n/a .000
06927 [I/S= 396./ /305./035]
06928 [Vmax= 433;Dmax= 39]
06929 R1999-C0021 -----Dtain-ID:INHYD-----AREAha-QFEARgs-TpeakDate\_hh:mm-----Rvmm-R.C-----DWfms
06930 CONTINUOUS NASHDY 5.0 01:18R1-2 20.21 .033 1999.0906.10:35 156.26 .368 .000
06931 [CM= 25.4; N= 3.00; Tp= 0.81]
06932 [IAREC= 6.00; SMIN=204.20; SMAX=\*\*\*\*\*; SK= .030]
06933 [InterEventTime= 12.00]
06934 R1999-C0022 -----Dtain-ID:INHYD-----AREAha-QFEARgs-TpeakDate\_hh:mm-----Rvmm-R.C-----DWfms
06935 ADD HYD + 5.0 02:18R1 108.84 .247 1999.0906.10:50 156.67 n/a .000
06936 + 5.0 02:18R1-2 20.21 .033 1999.0906.10:35 156.26 n/a .000
06937 + 5.0 02:18R1-3 129.05 .279 1999.0906.10:50 156.61 n/a .000
06938 R1999-C0023 -----Dtain-ID:INHYD-----AREAha-QFEARgs-TpeakDate\_hh:mm-----Rvmm-R.C-----DWfms
06939 ROUTE CHANNEL -> 5.0 02:24 129.05 .277 1999.0906.10:55 156.61 n/a .000
06940 [RDY= 5.00] out- 5.0 01:84 129.05 .277 1999.0906.10:55 156.61 n/a .000
06941 [I/S= 482./ /410./035]
06942 [Vmax= 501;Dmax= 247]
06943 R1999-C0024 -----Dtain-ID:INHYD-----AREAha-QFEARgs-TpeakDate\_hh:mm-----Rvmm-R.C-----DWfms
06944 CONTINUOUS NASHDY 5.0 01:18R1-2 11.61 .022 1999.0906.10:15 156.30 .368 .000
06945 [CM= 36.1; N= 3.00; Tp= .96]
06946 [IAREC= 6.00; SMIN=48.82; SMAX=946.27; SK= .030]
06947 [InterEventTime= 12.00]
06948 R1999-C0025 -----Dtain-ID:INHYD-----AREAha-QFEARgs-TpeakDate\_hh:mm-----Rvmm-R.C-----DWfms
06949 ADD HYD + 5.0 02:18R1 129.05 .277 1999.0906.10:55 156.61 n/a .000
06950 + 5.0 02:18R1-2 11.61 .022 1999.0906.10:15 156.30 n/a .000
06951 + 5.0 02:18R1-3 140.66 .296 1999.0906.10:50 156.58 n/a .000
06952 R1999-C0026 -----Dtain-ID:INHYD-----AREAha-QFEARgs-TpeakDate\_hh:mm-----Rvmm-R.C-----DWfms
06953 ROUTE CHANNEL -> 5.0 02:24 129.05 .279 1999.0906.10:50 156.61 n/a .000
06954 [RDY= 5.00] out- 5.0 01:84 129.05 .277 1999.0906.10:55 156.61 n/a .000
06955 [I/S= 482./ /410./035]
06956 [Vmax= 501;Dmax= 247]
06957 R1999-C0027 -----Dtain-ID:INHYD-----AREAha-QFEARgs-TpeakDate\_hh:mm-----Rvmm-R.C-----DWfms
06958 CONTINUOUS NASHDY 5.0 01:18R1-3 7.98 .019 1999.0906.10:15 156.46 .369 .000
06959 [CM= 42.6; N= 3.00; Tp= .89]
06960 [IAREC= 6.00; SMIN=141.94; SMAX=946.27; SK= .030]
06961 [InterEventTime= 12.00]
06962 R1999-C0028 -----Dtain-ID:INHYD-----AREAha-QFEARgs-TpeakDate\_hh:mm-----Rvmm-R.C-----DWfms
06963 ADD HYD + 5.0 02:18R1 148.64 .310 1999.0906.11:00 156.58 n/a .000
06964 + 5.0 02:18R1-2 11.61 .022 1999.0906.10:15 156.30 n/a .000
06965 + 5.0 02:18R1-3 7.98 .019 1999.0906.10:15 156.46 n/a .000
06966 + 5.0 02:18R1-4 148.64 .310 1999.0906.11:00 156.58 n/a .000
06967 R1999-C0029 -----Dtain-ID:INHYD-----AREAha-QFEARgs-TpeakDate\_hh:mm-----Rvmm-R.C-----DWfms
06968 SAVE HYD + 5.0 01:26 148.64 .311 1999.0906.10:55 156.58 n/a .000
06969 [Name = 1/6, 1999]
06970 remark:3/6-Bearbrook Tributary Upstream of Thunder Road Crossing
06971 R1999-C0030 -----Dtain-ID:INHYD-----AREAha-QFEARgs-TpeakDate\_hh:mm-----Rvmm-R.C-----DWfms
06972 ROUTE CHANNEL -> 5.0 02:18R1 148.64 .310 1999.0906.11:00 156.58 n/a .000
06973 [RDY= 5.00] out- 5.0 01:86 148.64 .310 1999.0906.11:00 156.58 n/a .000
06974 [I/S= 323./ /440./035]
06975 [Vmax= 527;Dmax= 254]
06976 R1999-C0031 -----Dtain-ID:INHYD-----AREAha-QFEARgs-TpeakDate\_hh:mm-----Rvmm-R.C-----DWfms
06977 CONTINUOUS NASHDY 5.0 01:18R1-4 34.99 .030 1999.0906.10:25 156.36 .368 .000
06978 [CM= 39.5; N= 3.00; Tp= 1.23]
06979 [IAREC= 6.00; SMIN=161.62; SMAX=\*\*\*\*\*; SK= .030]
06980 [InterEventTime= 12.00]
06981 R1999-C0032 -----Dtain-ID:INHYD-----AREAha-QFEARgs-TpeakDate\_hh:mm-----Rvmm-R.C-----DWfms
06982 ADD HYD + 5.0 02:18R1 148.64 .310 1999.0906.11:00 156.58 n/a .000
06983 + 5.0 02:18R1-2 14.99 .030 1999.0906.10:25 156.36 n/a .000
06984 + 5.0 01:Total 163.63 .297 1999.0906.11:00 156.58 n/a .000
06985 # \*\*\*\*\*
06986 # CONTINUOUS RAINFALL DATA
06987 # \*\*\*\*\*
06988 # \*\*\*\*\*
06989 # STORMS
06990 # \*\*\*\*\*
06991 # END OF RUN : 1999
06992
06993
06994
06995
06996
06997
06998
06999
07000 R2000-C0000-----
07001 START
07002 [TERR= .00] hrs on 20000401
07003 [METOW= 2] (1=imperial, 2=metric output)
07004 [NFORM= 0]
07005 [NFORM= 200]
07006 # \*\*\*\*\*
07007 # SMDWNO / DWNO Unit : 1000
07008 # \*\*\*\*\*
07009 # Project Name : [THUNDER ROAD] Project Number : [2128]
07010 # Date : 01-26-2002
07011 # Modeler : [J.F.]
07012 # Company : JFSaInc.
07013 # License # : 2549237
07014 # \*\*\*\*\*
07015 # \*\*\*\*\*
07016 # \*\*\*\*\*
07017 # OCAWNA THUNDER ROAD Airport April 1st to October 31st
07018 R2000-C0002-----
07019 # HEAD AREA DATA
07020 # Ifilename Y0M\_1967-2007.123
}
07021 [start\_date= 2000.0401; End\_Date= 2000.1031]
07022 [Sump Area= 3116.1; WetArea= 401; DryArea= 4735; PTO= 535.90]
07023 Maximum average rainfall intensities over
07024 1 hr 2 hrs 3 hrs 6 hrs 12 hrs 24 hrs 36 hrs 48 hrs 72 hrs
07025 14.70 8.40 5.80 4.43 3.89 3.30 3.12 2.84 2.54 mm/hr
07026 14.70 19.20 24.10 36.50 46.70 46.70 46.80 49.00 60.40 mm
07027 [InterEventTime= 12.00]
07028 Number of rainfall events per following interval time
07029 1 hr 2 hrs 3 hrs 6 hrs 12 hrs 24 hrs 36 hrs 48 hrs 72 hrs
07030 156 125 145 86 67 46 34 30 23
07031 Number of events with at least the following durations
07032 1 hr 2 hrs 3 hrs 6 hrs 12 hrs 24 hrs 36 hrs 48 hrs 72 hrs
07033 155 82 49 16 2 0 0 0 0
07034 R2000-C0003-----
07035 COMPETE API
07036 [APIIn= 50.00; APIQty= .900; APIkd= .9956]
07037 [APIOut= 76.45; APIQty= 78.1; APIIn= 6.31]
07038 R2000-C0004 -----Dtain-ID:INHYD-----AREAha-QFEARgs-TpeakDate\_hh:mm-----Rvmm-R.C-----DWfms
07039 CONTINUOUS NASHDY 5.0 01:18R1-1 34.70 .039 2000.0625.13:20 183.22 .342 .000
07040 [CM= 38.1; N= 3.00; Tp= 1.21]
07041 [IAREC= 6.00; SMIN=168.42; SMAX=\*\*\*\*\*; SK= .030]
07042 [InterEventTime= 12.00]
07043 R2000-C0005 -----Dtain-ID:INHYD-----AREAha-QFEARgs-TpeakDate\_hh:mm-----Rvmm-R.C-----DWfms
07044 CONTINUOUS NASHDY 5.0 01:18R1-2 12.44 .100 2000.0625.10:50 183.58 .343 .000
07045 [CM= 52.0; N= 3.00; Tp= 1.29]
07046 [IAREC= 6.00; SMIN= 91.01; SMAX=606.70; SK= .030]
07047 [InterEventTime= 12.00]
07048 R2000-C0006 -----Dtain-ID:INHYD-----AREAha-QFEARgs-TpeakDate\_hh:mm-----Rvmm-R.C-----DWfms
07049 CONTINUOUS NASHDY 5.0 01:18R1-1 2.36 .041 2000.0625.10:45 185.25 .346 .000
07050 [CM= 87.1; N= 3.00; Tp= 1.21]
07051 [IAREC= 6.00; SMIN= 25.21; SMAX=168.09; SK= .030]
07052 [InterEventTime= 12.00]
07053 R2000-C0007 -----Dtain-ID:INHYD-----AREAha-QFEARgs-TpeakDate\_hh:mm-----Rvmm-R.C-----DWfms
07054 ADD HYD + 5.0 02:18R1-1 34.70 .039 2000.0625.13:20 183.22 n/a .000
07055 + 5.0 02:18R1-2 12.44 .100 2000.0625.10:50 183.58 n/a .000
07056 + 5.0 02:18R1-3 2.36 .041 2000.0625.10:45 185.25 n/a .000
07057 S1M = 49.51 49.51 .089 2000.0625.11:00 183.41 n/a .000
07058 R2000-C0008 -----Dtain-ID:INHYD-----AREAha-QFEARgs-TpeakDate\_hh:mm-----Rvmm-R.C-----DWfms
07059 ROUTE CHANNEL -> 5.0 02:21 49.51 .189 2000.0625.11:00 183.41 n/a .000
07060 [RDY= 5.00] out- 5.0 01:82 49.51 .189 2000.0625.11:15 183.41 n/a .000
07061 [I/S= 478./ /440./035]
07062 [Vmax= 375;Dmax= 35]
07063 R2000-C0009 -----Dtain-ID:INHYD-----AREAha-QFEARgs-TpeakDate\_hh:mm-----Rvmm-R.C-----DWfms
07064 CONTINUOUS NASHDY 5.0 01:18R1-1 4.39 .037 2000.0625.11:10 183.84 .343 .000
07065 [CM= 38.4; N= 3.00; Tp= 1.45]
07066 [IAREC= 6.00; SMIN= 67.24; SMAX=448.24; SK= .030]
07067 [InterEventTime= 12.00]
07068 R2000-C0010 -----Dtain-ID:INHYD-----AREAha-QFEARgs-TpeakDate\_hh:mm-----Rvmm-R.C-----DWfms
07069 CONTINUOUS NASHDY 5.0 01:18R1-2 3.61 .030 2000.0625.10:35 183.42 .342 .000
07070 [CM= 47.4; N= 3.00; Tp= 1.45]
07071 [IAREC= 6.00; SMIN=11.26; SMAX=768.40; SK= .030]
07072 [InterEventTime= 12.00]
07073 R2000-C0011 -----Dtain-ID:INHYD-----AREAha-QFEARgs-TpeakDate\_hh:mm-----Rvmm-R.C-----DWfms
07074 CONTINUOUS NASHDY 5.0 01:18R1 3.84 .033 2000.0625.11:00 183.76 .343 .000
07075 [CM= 38.4; N= 3.00; Tp= 1.45]
07076 [IAREC= 6.00; SMIN= 73.13; SMAX=487.55; SK= .030]
07077 [InterEventTime= 12.00]
07078 R2000-C0012 -----Dtain-ID:INHYD-----AREAha-QFEARgs-TpeakDate\_hh:mm-----Rvmm-R.C-----DWfms
07079 CONTINUOUS NASHDY 5.0 01:18R1 5.29 .031 2000.0625.10:50 183.31 .342 .000
07080 [CM= 42.6; N= 3.00; Tp= 1.51]
07081 [IAREC= 6.00; SMIN=141.94; SMAX=946.27; SK= .030]
07082 [InterEventTime= 12.00]
07083 R2000-C0013 -----Dtain-ID:INHYD-----AREAha-QFEARgs-TpeakDate\_hh:mm-----Rvmm-R.C-----DWfms
07084 CONTINUOUS NASHDY 5.0 01:18R1 1.21 .007 2000.0625.10:30 183.20 .342 .000
07085 [CM= 37.8; N= 3.00; Tp= 1.71]
07086 [IAREC= 6.00; SMIN=179.29; SMAX=\*\*\*\*\*; SK= .030]
07087 [InterEventTime= 12.00]
07088 R2000-C0014 -----Dtain-ID:INHYD-----AREAha-QFEARgs-TpeakDate\_hh:mm-----Rvmm-R.C-----DWfms
07089 ROUTE CHANNEL -> 5.0 02:1AC 1.21 .007 2000.0625.10:30 183.20 n/a .000
07090 [RDY= 5.00] out- 5.0 01:18R1-R 1.21 .007 2000.0625.10:30 183.20 n/a .000
07091 [I/S= 500./ /440./035]
07092 [Vmax= 375;Dmax= 35]
07093 R2000-C0015 -----Dtain-ID:INHYD-----AREAha-QFEARgs-TpeakDate\_hh:mm-----Rvmm-R.C-----DWfms
07094 CONTINUOUS NASHDY 5.0 01:18R1-3 5.71 .067 2000.0625.10:30 183.76 .343 .000
07095 [CM= 38.4; N= 3.00; Tp= 1.91]
07096 [IAREC= 6.00; SMIN= 73.13; SMAX=487.55; SK= .030]
07097 [InterEventTime= 12.00]
07098 R2000-C0016 -----Dtain-ID:INHYD-----AREAha-QFEARgs-TpeakDate\_hh:mm-----Rvmm-R.C-----DWfms
07099 ADD HYD + 5.0 02:18R1 73.56 .374 2000.0625.11:00 183.47 n/a .000
07100 + 5.0 02:18R1-2 21.43 .034 1999.0906.10:45 156.60 n/a .000
07101 + 5.0 02:18R1-3 4.70 .010 1999.0906.10:50 156.50 n/a .000
07102 + 5.0 02:18R1-4 9.14 .050 1999.0906.10:15 157.60 n/a .000
07103 + 5.0 02:18R1-5 9.14 .050 1999.0906.10:15 157.60 n/a .000
07104 + 5.0 02:18R1-6 9.14 .050 1999.0906.10:15 157.60 n/a .000
07105 + 5.0 02:18R1-7 9.14 .050 1999.0906.10:15 157.60 n/a .000
07106 S1M = 49.51 49.51 .089 1999.0906.10:40 156.60 n/a .000
07107 R2000-C0017 -----Dtain-ID:INHYD-----AREAha-QFEARgs-TpeakDate\_hh:mm-----Rvmm-R.C-----DWfms
07108 ROUTE CHANNEL -> 5.0 02:22 73.56 .376 2000.0625.10:55 183.47 n/a .000
07109 [RDY= 5.00] out- 5.0 01:82 73.56 .374 2000.0625.11:00 183.47 n/a .000
07110 [I/S= 573;Dmax= 187]
07111 [Vmax= 573;Dmax= 187]
07112 R2000-C0018 -----Dtain-ID:INHYD-----AREAha-QFEARgs-TpeakDate\_hh:mm-----Rvmm-R.C-----DWfms
07113 CONTINUOUS NASHDY 5.0 01:18R1 21.43 .083 2000.0625.11:10 183.17 .342 .000
07114 [CM= 36.1; N= 3.00; Tp= 1.68]
07115 [IAREC= 6.00; SMIN=48.82; SMAX=946.27; SK= .030]
07116 [InterEventTime= 12.00]
07117 R2000-C0019 -----Dtain-ID:INHYD-----AREAha-QFEARgs-TpeakDate\_hh:mm-----Rvmm-R.C-----DWfms
07118 CONTINUOUS NASHDY 5.0 01:18R1 4.70 .024 2000.0625.11:15 183.33 .342 .000
07119 [CM= 44.6; N= 3.00; Tp= 1.72]
07120 [IAREC= 6.00; SMIN=141.94; SMAX=946.27; SK= .030]
07121 [InterEventTime= 12.00]
07122 R2000-C0020 -----Dtain-ID:INHYD-----AREAha-QFEARgs-TpeakDate\_hh:mm-----Rvmm-R.C-----DWfms
07123 CONTINUOUS NASHDY 5.0 01:18R1 9.14 .120 2000.0625.10:40 184.20 .344 .000
07124 [CM= 64.1; N= 3.00; Tp= 1.12]
07125 [IAREC= 6.00; SMIN= 48.82; SMAX=323.73; SK= .030]
07126 [InterEventTime= 12.00]
07127 R2000-C0021 -----Dtain-ID:INHYD-----AREAha-QFEARgs-TpeakDate\_hh:mm-----Rvmm-R.C-----DWfms
07128 ADD HYD + 5.0 02:18R1 73.56 .374 2000.0625.11:00 183.47 n/a .000
07129 + 5.0 02:18R1-2 21.43 .083 2000.0625.11:10 183.17 n/a .000
07130 + 5.0 02:18R1-3 4.70 .010 2000.0625.11:15 183.33 n/a .000
07131 + 5.0 02:18R1-4 9.14 .120 2000.0625.10:40 184.20 n/a .000
07132 S1M = 49.51 49.51 .089 2000.0625.11:00 183.47 n/a .000
07133 R2000-C0022 -----Dtain-ID:INHYD-----AREAha-QFEARgs-TpeakDate\_hh:mm-----Rvmm-R.C-----DWfms
07134 ROUTE CHANNEL -> 5.0 02:23 108.84 .594 2000.0625.10:50 183.47 n/a .000
07135 [RDY= 5.00] out- 5.0 01:83 108.84 .594 2000.0625.11:10 183.47 n/a .000
07136 [I/S= 396./ /305./035]
07137 [Vmax= 433;Dmax= 39]
07138 R2000-C0023 -----Dtain-ID:INHYD-----AREAha-QFEARgs-TpeakDate\_hh:mm-----Rvmm-R.C-----DWfms
07139 CONTINUOUS NASHDY 5.0 01:18R1-1 20.21 .084 2000.0625.11:00 183.15 .342 .000
07140 [CM= 31.0; N= 3.00; Tp= 1.40]
07141 [IAREC= 6.00; SMIN=204.20; SM



07561 [IAREC=6.00; SMIN=204.20; DMAX=100.00]
07562 [IAREC=6.00; SMIN=204.20; DMAX=100.00]
07563 R2003:R2003:00024-----DRAIN-ID:INHYD-----AREHA-A-FPEAKS-TPeakDate\_hh:mm-----RvM-R-C-----DWFCms
07564 ADD HYD + 5.0 02:R01 108.84 .384 2003.1021.9400 181.72 n/a .000
07565 [IAREC=6.00; SMIN=191.09; SMAX=946.27;] SK= 0303
07566 [IAREC=6.00; SMIN=191.09; SMAX=946.27;] SK= 0303
07567 R2003:R2003:00025-----DRAIN-ID:INHYD-----AREHA-A-FPEAKS-TPeakDate\_hh:mm-----RvM-R-C-----DWFCms
07568 ROUTE CHANNEL -> 5.0 02:R14 129.05 .438 2003.1021.9400 181.15 n/a .000
07569 [IAREC=6.00; SMIN=191.09; SMAX=946.27;] SK= 0303
07570 [IAREC=6.00; SMIN=191.09; SMAX=946.27;] SK= 0303
07571 R2003:R2003:00026-----DRAIN-ID:INHYD-----AREHA-A-FPEAKS-TPeakDate\_hh:mm-----RvM-R-C-----DWFCms
07572 CONTINUOUS NASHDY 5.0 01:SOOUTH-2 11.61 .041 2003.0711.1740 178.41 1322 .000
07573 [IAREC=6.00; SMIN=191.09; SMAX=946.27;] SK= 0303
07574 [IAREC=6.00; SMIN=191.09; SMAX=946.27;] SK= 0303
07575 R2003:R2003:00027-----DRAIN-ID:INHYD-----AREHA-A-FPEAKS-TPeakDate\_hh:mm-----RvM-R-C-----DWFCms
07576 ADD HYD + 5.0 02:R14 129.05 .434 2003.1021.9400 181.15 n/a .000
07577 [IAREC=6.00; SMIN=191.09; SMAX=946.27;] SK= 0303
07578 [IAREC=6.00; SMIN=191.09; SMAX=946.27;] SK= 0303
07579 R2003:R2003:00028-----DRAIN-ID:INHYD-----AREHA-A-FPEAKS-TPeakDate\_hh:mm-----RvM-R-C-----DWFCms
07580 ROUTE CHANNEL -> 5.0 02:R14 129.05 .434 2003.1021.9400 181.15 n/a .000
07581 [IAREC=6.00; SMIN=191.09; SMAX=946.27;] SK= 0303
07582 [IAREC=6.00; SMIN=191.09; SMAX=946.27;] SK= 0303
07583 R2003:R2003:00029-----DRAIN-ID:INHYD-----AREHA-A-FPEAKS-TPeakDate\_hh:mm-----RvM-R-C-----DWFCms
07584 ROUTE CHANNEL -> 5.0 02:R14 129.05 .434 2003.1021.9400 181.15 n/a .000
07585 [IAREC=6.00; SMIN=191.09; SMAX=946.27;] SK= 0303
07586 [IAREC=6.00; SMIN=191.09; SMAX=946.27;] SK= 0303
07587 R2003:R2003:00030-----DRAIN-ID:INHYD-----AREHA-A-FPEAKS-TPeakDate\_hh:mm-----RvM-R-C-----DWFCms
07588 CONTINUOUS NASHDY 5.0 01:SOOUTH-3 7.98 .038 2003.0711.1735 180.02 1325 .000
07589 [IAREC=6.00; SMIN=191.09; SMAX=946.27;] SK= 0303
07590 [IAREC=6.00; SMIN=191.09; SMAX=946.27;] SK= 0303
07591 R2003:R2003:00031-----DRAIN-ID:INHYD-----AREHA-A-FPEAKS-TPeakDate\_hh:mm-----RvM-R-C-----DWFCms
07592 ADD HYD + 5.0 02:R14 129.05 .434 2003.1021.9400 181.15 n/a .000
07593 [IAREC=6.00; SMIN=191.09; SMAX=946.27;] SK= 0303
07594 [IAREC=6.00; SMIN=191.09; SMAX=946.27;] SK= 0303
07595 R2003:R2003:00032-----DRAIN-ID:INHYD-----AREHA-A-FPEAKS-TPeakDate\_hh:mm-----RvM-R-C-----DWFCms
07596 SAVE HYD 5.0 01:R16 148.64 .489 2003.1021.9400 180.88 n/a .000
07597 [IAREC=6.00; SMIN=191.09; SMAX=946.27;] SK= 0303
07598 [IAREC=6.00; SMIN=191.09; SMAX=946.27;] SK= 0303
07599 R2003:R2003:00033-----DRAIN-ID:INHYD-----AREHA-A-FPEAKS-TPeakDate\_hh:mm-----RvM-R-C-----DWFCms
07600 ROUTE CHANNEL -> 5.0 01:R16 148.64 .487 2003.1021.9400 180.88 n/a .000
07601 [IAREC=6.00; SMIN=191.09; SMAX=946.27;] SK= 0303
07602 [IAREC=6.00; SMIN=191.09; SMAX=946.27;] SK= 0303
07603 R2003:R2003:00034-----DRAIN-ID:INHYD-----AREHA-A-FPEAKS-TPeakDate\_hh:mm-----RvM-R-C-----DWFCms
07604 CONTINUOUS NASHDY 5.0 01:SOOUTH-4 34.858 .049 2003.1021.9400 179.04 1323 .000
07605 [IAREC=6.00; SMIN=191.09; SMAX=946.27;] SK= 0303
07606 [IAREC=6.00; SMIN=191.09; SMAX=946.27;] SK= 0303
07607 R2003:R2003:00035-----DRAIN-ID:INHYD-----AREHA-A-FPEAKS-TPeakDate\_hh:mm-----RvM-R-C-----DWFCms
07608 ADD HYD + 5.0 02:SOOUTH-2 11.61 .041 2003.0711.1740 178.41 n/a .000
07609 [IAREC=6.00; SMIN=191.09; SMAX=946.27;] SK= 0303
07610 [IAREC=6.00; SMIN=191.09; SMAX=946.27;] SK= 0303
07611 R2003:R2003:00036-----DRAIN-ID:INHYD-----AREHA-A-FPEAKS-TPeakDate\_hh:mm-----RvM-R-C-----DWFCms
07612 ADD HYD + 5.0 02:SOOUTH-4 14.99 .049 2003.0711.1750 179.04 n/a .000
07613 [IAREC=6.00; SMIN=191.09; SMAX=946.27;] SK= 0303
07614 [IAREC=6.00; SMIN=191.09; SMAX=946.27;] SK= 0303
07615 R2003:R2003:00037-----DRAIN-ID:INHYD-----AREHA-A-FPEAKS-TPeakDate\_hh:mm-----RvM-R-C-----DWFCms
07616 CONTINUOUS RAINFALL DATA
07617 #####
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08281 *** WARNING: Requested start date is less than start date in file.
08282 *** WARNING: Missing rainfall increments were set to 0.
08283 *** WARNING: Missing rainfall increments were set to 0.
08284 *** WARNING: Requested start date is less than start date in file.
08285 *** WARNING: Missing rainfall increments were set to 0.
08286 *** WARNING: Requested start date is less than start date in file.
08287 *** WARNING: Missing rainfall increments were set to 0.
08288 *** WARNING: Missing rainfall increments were set to 0.
08289 *** WARNING: Requested start date is less than start date in file.
08290 *** WARNING: Missing rainfall increments were set to 0.
08291 *** WARNING: Requested start date is less than start date in file.
08292 *** WARNING: Missing rainfall increments were set to 0.
08293 *** WARNING: Requested start date is less than start date in file.
08294 *** WARNING: Missing rainfall increments were set to 0.
08295 *** WARNING: Requested start date is less than start date in file.
08296 *** WARNING: Missing rainfall increments were set to 0.
08297 *** WARNING: Missing rainfall increments were set to 0.
08298 Simulation ended on 2024-07-31 at 16:08:34
08299 =====
08300
```

```

1 20 Metric units / ID numbers OFF
2 *#*****
3 *# SWMHYMO / INPUT DATA FILE
4 *#*****
5 *# Project Name: [THUNDER ROAD] Project Number: [2128]
6 *# Date: 04-28-2021
7 *# Modeller: [J.B]
8 *# Company: JFSAinc.
9 *# License #: 2549237
10 *#*****
11 * Model Developed to assess the post development erosion/hydrologic conditions on the
12 Bear Brook
13 * tributary near 6150 Thunder Road
14 *#*****
15 START TZERO=[1967.0101], METOUT=[2], NSTORM=[0], NRUN=[1967]
16 *% [""] <--storm filename, one per line for NSTORM time
17 *%-----|-----
18 *# Ottawa International Airport - April 1st to October 31st
19 READ AES DATA AES_FILENAME=["YOW_1967_2007.123"],
20 IELEM=[123], START_DATE=[0], END_DATE=[-213]
21 *%-----|-----
22 COMPUTE API APII=[50], APIK=[0.90]/day
23 *%-----|-----
24 * DRAINAGE AREAS NORTH OF HIGHWAY
25 *%-----|-----
26 CONTINUOUS NASHYD NHYD=["NORTH-1"], DT=[5] (min), AREA=[34.701] (ha),
27 DWF=[0] (cms), CN/C=[38.1], IA=[4.67] (mm), N=[3], TP=[4.12] (hrs),
28 Continuous simulation parameters:
29 IaRECper=[6] (hrs),
30 SMIN=[-1] (mm), SMAX=[-1] (mm), SK=[0.03]/(mm),
31 InterEventTime=[12] (hrs),
32 Baseflow simulation parameters:
33 BaseFlowOption=[1], InitGWResVol=[12] (mm), GWResK=[0.95] (mm/day/mm),
34 VHydCond=[.02] (mm/hr), END=-1
35 *%-----|-----
36 CONTINUOUS NASHYD NHYD=["NORTH-2"], DT=[5] (min), AREA=[12.444] (ha),
37 DWF=[0] (cms), CN/C=[53.0], IA=[4.67] (mm), N=[3], TP=[1.29] (hrs),
38 Continuous simulation parameters:
39 IaRECper=[6] (hrs),
40 SMIN=[-1] (mm), SMAX=[-1] (mm), SK=[0.03]/(mm),
41 InterEventTime=[12] (hrs),
42 Baseflow simulation parameters:
43 BaseFlowOption=[1], InitGWResVol=[12] (mm), GWResK=[0.95] (mm/day/mm),
44 VHydCond=[.02] (mm/hr), END=-1
45 *%-----|-----
46 CONTINUOUS NASHYD NHYD=["HWY-1"], DT=[5] (min), AREA=[2.364] (ha),
47 DWF=[0] (cms), CN/C=[81.7], IA=[4.67] (mm), N=[3], TP=[1.21] (hrs),
48 Continuous simulation parameters:
49 IaRECper=[6] (hrs),
50 SMIN=[-1] (mm), SMAX=[-1] (mm), SK=[0.03]/(mm),
51 InterEventTime=[12] (hrs),
52 Baseflow simulation parameters:
53 BaseFlowOption=[1], InitGWResVol=[12] (mm), GWResK=[0.95] (mm/day/mm),
54 VHydCond=[.02] (mm/hr), END=-1
55 *%-----|-----
56 *ADD AREAS UPSTREAM OF HIGHWAY
57 ADD HYD NHYDsum=["J1"], NHYDs to add=["NORTH-1"+"NORTH-2"+"HWY-1"]
58 *%-----|-----
59 * ROUTE UPSTREAM FLOWS TO THUNDER ROAD
60 ROUTE CHANNEL NHYDout=["R1"], NHYDin=["J1"], RDT=[5] (min),
61 CHLGTH=[.478] (m), CHSLOPE=[0.44] (%), FPSLOPE=[0.44] (%),
62 SECNUM=[.1], NSEG=[.3]
63 (SEGROUGH, SEGDIST (m))=[0.05, 2.49, -0.035, 8.73, 0.05, 26.18] NSEG
64 times
65 (DISTANCE (m), ELEVATION (m))=[0, 76.83]
66 [1.25, 76.8]
67 [2.49, 76.64]
68 [3.74, 76.45]

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68 ..... [4.99,76.22]
69 ..... [6.23,76.3]
70 ..... [7.48,76.52]
71 ..... [8.73,76.58]
72 ..... [9.97,76.61]
73 ..... [22.44,76.62]
74 ..... [23.69,76.7]
75 ..... [24.93,76.75]
76 ..... [26.18,76.85]
77 *%-----|-----|
78 * DRAINAGE AREAS AROUND HIGHWAY INTERCHANGE
79 *%-----|-----|
80 CONTINUOUS NASHYD NHYD=["INT-1"], DT=[5] (min), AREA=[4.388] (ha),
81 ..... DWF=[0] (cms), CN/C=[60.4], IA=[4.67] (mm), N=[3], TP=[1.66] (hrs),
82 ..... Continuous simulation parameters:
83 ..... IaRECper=[6] (hrs),
84 ..... SMIN=[-1] (mm), SMAX=[-1] (mm), SK=[0.03]/(mm),
85 ..... InterEventTime=[12] (hrs),
86 ..... Baseflow simulation parameters:
87 ..... BaseFlowOption=[1], InitGWResVol=[12] (mm), GWResK=[0.95] (mm/day/mm),
88 ..... VHydCond=[.02] (mm/hr), END=-1
89 *%-----|-----|
90 CONTINUOUS NASHYD NHYD=["INT-2"], DT=[5] (min), AREA=[3.61] (ha),
91 ..... DWF=[0] (cms), CN/C=[47.4], IA=[4.67] (mm), N=[3], TP=[0.95] (hrs),
92 ..... Continuous simulation parameters:
93 ..... IaRECper=[6] (hrs),
94 ..... SMIN=[-1] (mm), SMAX=[-1] (mm), SK=[0.03]/(mm),
95 ..... InterEventTime=[12] (hrs),
96 ..... Baseflow simulation parameters:
97 ..... BaseFlowOption=[1], InitGWResVol=[12] (mm), GWResK=[0.95] (mm/day/mm),
98 ..... VHydCond=[.02] (mm/hr), END=-1
99 *%-----|-----|
100 CONTINUOUS NASHYD NHYD=["A3A"], DT=[5] (min), AREA=[3.84] (ha),
101 ..... DWF=[0] (cms), CN/C=[58.4], IA=[4.67] (mm), N=[3], TP=[1.46] (hrs),
102 ..... Continuous simulation parameters:
103 ..... IaRECper=[6] (hrs),
104 ..... SMIN=[-1] (mm), SMAX=[-1] (mm), SK=[0.03]/(mm),
105 ..... InterEventTime=[12] (hrs),
106 ..... Baseflow simulation parameters:
107 ..... BaseFlowOption=[1], InitGWResVol=[12] (mm), GWResK=[0.95] (mm/day/mm),
108 ..... VHydCond=[.02] (mm/hr), END=-1
109 *%-----|-----|
110 *Lumped subcatchment with parameters calibrated to match detailed PCSWMM model
111 CONTINUOUS STANDHYD NHYD=["Pond3-In"], DT=[5] (min), AREA=[1.205] (ha), XIMP=[0.64],
112 ..... TIMP=[0.75], DWF=[0] (cms),
113 ..... LOSS=[1], Horton: Fo=[76.20] (mm/hr), Fc=[13.20] (mm/hr),
114 ..... DCAY=[4.14] (/hr), F=[12] (mm),
115 ..... Pervious areas: IAper=[4.67] (mm), SLPP=[2.5] (%), LGP=[100] (m),
116 ..... MNP=[0.25], SCP=[0] (min),
117 ..... Impervious areas: IAimp=[1.57] (mm), SLPI=[2.5] (%), LGI={50} (m),
118 ..... MNI=[0.013], SCI=[0] (min),
119 ..... Continuous simulation parameters:
120 ..... IaRECper=[12] (hrs), IaRECimp=[12] (hrs),
121 ..... SMIN=[-1] (mm), SMAX=[-1] (mm), SK=[0.01]/(mm),
122 ..... InterEventTime=[24] (hrs), END=-1
123 *%-----|-----|
124 *SWM Pond Outflow Storage Curve
125 ROUTE RESERVOIR NHYDout=["Pond3-Out"], NHYDin=["Pond3-In"], RDT=[5] (min),
126 ..... TABLE of (OUTFLOW-STORAGE) values
127 ..... ----->----->----->----->-----> (cms) (ha-m)
128 ..... [0,0]
129 ..... [0.0001,0.0078]
130 ..... [0.0002,0.0088]
131 ..... [0.0004,0.0098]
132 ..... [0.0008,0.0108]
133 ..... [0.0012,0.0119]
134 ..... [0.0017,0.013]
135 ..... [0.0021,0.0141]
136 ..... [0.0024,0.0152]

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132 ..... [ 0.0026,0.0164]
133 ..... [ 0.0028,0.0176]
134 ..... [ 0.0029,0.0405]
135 ..... [ 0.0030,0.042]
136 ..... [ 0.0031,0.0451]
137 ..... [ 0.0035,0.0576]
138 ..... [ 0.0039,0.0703]
139 ..... [ 0.0043,0.0832]
140 ..... [ 0.0044,0.0893]
141 ..... [ 0.1091,0.097]
142 ..... [ 0.4887,0.1104]
143 ..... [ 1.018,0.1239]
144 ..... [ 1.6597,0.1377]
145 ..... NHYDovf=["Pond3-Over"],
146 *%-----|-----|
147 ADD HYD ..... NHYDsum=["Pond3-Ditch"]NHYDs to add=["Pond3-Over"+"Pond3-Out"]
148 *%-----|-----|
149 *Route runoff from north site lands through road side ditch (500m @ 0.14%)
150 ROUTE CHANNEL ..... NHYDout=["A3C-R"], NHYDin=["Pond3-Out"], RDT=[5] (min),
151 ..... CHLGTH=[ 500 ] (m), CHSLOPE=[0.14] (%), FPSLOPE=[0.14] (%),
152 ..... SECNUM=[ 1 ], NSEG=[ 3 ]
153 ..... ( SEGROUGH, SEGDIST (m))=[0.05, 2.95, -0.035, 7.38, 0.05, 10.33] NSEG
      times
154 ..... ( DISTANCE (m), ELEVATION (m))=[0.00, 76.58]
155 ..... [1.48, 76.57]
156 ..... [2.95, 76.49]
157 ..... [4.43, 76.15]
158 ..... [5.90, 76.11]
159 ..... [7.38, 76.58]
160 ..... [8.85, 76.95]
161 ..... [10.33, 77.20]
162 ..... [-1,-1]
163 *%-----|-----|
164 CONTINUOUS NASHYD ..... NHYD=["INT-3"], DT=[5] (min), AREA=[5.712] (ha),
165 ..... DWF=[0] (cms), CN/C=[58.5 ], IA=[4.67] (mm), N=[3], TP=[0.89 ] (hrs),
166 ..... Continuous simulation parameters:
167 ..... IaRECper=[6] (hrs),
168 ..... SMIN=[-1] (mm), SMAX=[-1] (mm), SK=[0.03]/(mm),
169 ..... InterEventTime=[12] (hrs),
170 ..... Baseflow simulation parameters:
171 ..... BaseFlowOption=[1], InitGWResVol=[12] (mm), GWResK=[0.95] (mm/day/mm),
172 ..... VHydCond=[.02] (mm/hr), END=-1
173 *%-----|-----|
174 ADD HYD ..... NHYDsum=["J2"], NHYDs to
      add=["R1"+"INT-1"+"INT-2"+"INT-3"+"A3A"+"A3C-R"]
175 *%-----|-----|
176 ROUTE CHANNEL ..... NHYDout=["R2"], NHYDin=["J2"], RDT=[5] (min),
177 ..... CHLGTH=[ 359 ] (m), CHSLOPE=[0.56] (%), FPSLOPE=[0.56] (%),
178 ..... SECNUM=[ 1 ], NSEG=[ 3 ]
179 ..... ( SEGROUGH, SEGDIST (m))=[0.05, 15.18, -0.035, 25.29, 0.05, 30.35]
      NSEG times
180 ..... ( DISTANCE (m), ELEVATION (m))=[0,77.2]
181 ..... [1.26,77.14]
182 ..... [2.53,77.09]
183 ..... [6.32,77.02]
184 ..... [7.59,77.01]
185 ..... [8.85,76.99]
186 ..... [11.38,76.96]
187 ..... [13.91,76.92]
188 ..... [15.18,76.86]
189 ..... [16.44,76.63]
190 ..... [17.71,76.28]
191 ..... [18.97,76.24]
192 ..... [20.23,76.23]
193 ..... [21.5,76.33]
194 ..... [22.76,76.62]
195 ..... [24.03,76.73]
196 ..... [25.29,76.8]
197 ..... [27.82,76.8]

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198 ..... [29.09,76.81]
199 ..... [30.35,77]
200 ..... [-1,-1]
201 *%-----|-----
202 * DRAINAGE AREAS DOPWNSTREAM OF THUNDERROAD
203 *%-----|-----
204 CONTINUOUS NASHYD NHYD=["A1A"], DT=[5] (min), AREA=[21.435] (ha),
205 ..... DWF=[0] (cms), CN/C=[36.1], IA=[4.67] (mm), N=[3], TP=[1.68] (hrs),
206 ..... Continuous simulation parameters:
207 ..... IaRECper=[6] (hrs),
208 ..... SMIN=[-1] (mm), SMAX=[-1] (mm), SK=[0.03]/(mm),
209 ..... InterEventTime=[12] (hrs),
210 ..... Baseflow simulation parameters:
211 ..... BaseFlowOption=[1], InitGWResVol=[12] (mm), GWResK=[0.95] (mm/day/mm),
212 ..... VHydCond=[.02] (mm/hr), END=-1
213 *%-----|-----
214 *Lumped subcatchment with parameters calibrated to match detailed PCSWMM model
215 CONTINUOUS STANDHYD NHYD=["Pond1-In"], DT=[5] (min), AREA=[9.998] (ha), XIMP=[0.38],
216 ..... TIMP=[0.74], DWF=[0] (cms),
217 ..... LOSS=[1], Horton: Fo=[76.20] (mm/hr), Fc=[13.20] (mm/hr),
218 ..... DCAY=[4.14] (/hr), F=[12] (mm),
219 ..... Pervious areas: IAper=[4.67] (mm), SLPP=[2.0] (%), LGP=[500] (m),
220 ..... MNP=[0.25], SCP=[0] (min),
221 ..... Impervious areas: IAimp=[1.57] (mm), SLPI=[1.5] (%), LGI=[250] (m),
222 ..... MNI=[0.013], SCI=[0] (min),
223 ..... Continuous simulation parameters:
224 ..... IaRECper=[12]hrs), IaRECimp=[12] (hrs),
225 ..... SMIN=[-1] (mm), SMAX=[-1] (mm), SK=[0.01]/(mm),
226 ..... InterEventTime=[24] (hrs), END=-1
227 *%-----|-----
228 *SWM Pond Outflow Storage Curve
229 ROUTE RESERVOIR NHYDout=["Pond1-Out"], NHYDin=["Pond1-In"], RDT=[5] (min),
230 ..... TABLE of ( OUTFLOW-STORAGE ) values
231 ..... (cms) - (ha-m)
232 ..... [ 0 , 0 ]
233 ..... [ 0.0096 , 0.001 ]
234 ..... [ 0.0115 , 0.002 ]
235 ..... [ 0.0131 , 0.003 ]
236 ..... [ 0.0136 , 0.004 ]
237 ..... [ 0.0141 , 0.005 ]
238 ..... [ 0.0146 , 0.006 ]
239 ..... [ 0.015 , 0.008 ]
240 ..... [ 0.0155 , 0.009 ]
241 ..... [ 0.0159 , 0.011 ]
242 ..... [ 0.0163 , 0.013 ]
243 ..... [ 0.0167 , 0.015 ]
244 ..... [ 0.0171 , 0.017 ]
245 ..... [ 0.0175 , 0.02 ]
246 ..... [ 0.0179 , 0.022 ]
247 ..... [ 0.0182 , 0.025 ]
248 ..... [ 0.0186 , 0.028 ]
249 ..... [ 0.0189 , 0.031 ]
250 ..... [ 0.0193 , 0.033 ]
251 ..... [ 0.0196 , 0.036 ]
252 ..... [ 0.02 , 0.039 ]
253 ..... [ 0.0203 , 0.042 ]
254 ..... [ 0.0206 , 0.046 ]
255 ..... [ 0.0209 , 0.049 ]
256 ..... [ 0.0213 , 0.052 ]
257 ..... [ 0.0216 , 0.056 ]
258 ..... [ 0.0219 , 0.059 ]
259 ..... [ 0.0222 , 0.063 ]
260 ..... [ 0.0225 , 0.067 ]
261 ..... [ 0.0228 , 0.071 ]
262 ..... [ 0.0231 , 0.076 ]
263 ..... [ 0.0233 , 0.08 ]
264 ..... [ 0.0236 , 0.085 ]
265 ..... [ 0.0239 , 0.09 ]
266 ..... [ 0.0242 , 0.095 ]

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262 ..... [ 0.0245 , 0.1 ]
263 ..... [ 0.0247 , 0.106 ]
264 ..... [ 0.025 , 0.111 ]
265 ..... [ 0.0253 , 0.117 ]
266 ..... [ 0.0255 , 0.122 ]
267 ..... [ 0.0258 , 0.128 ]
268 ..... [ 0.026 , 0.133 ]
269 ..... [ 0.0263 , 0.139 ]
270 ..... [ 0.0265 , 0.144 ]
271 ..... [ 0.0268 , 0.15 ]
272 ..... [ 0.027 , 0.156 ]
273 ..... [ 0.0273 , 0.162 ]
274 ..... [ 0.0275 , 0.168 ]
275 ..... [ 0.0278 , 0.174 ]
276 ..... [ 0.028 , 0.18 ]
277 ..... [ 0.0282 , 0.187 ]
278 ..... [ 0.0285 , 0.193 ]
279 ..... [ 0.0287 , 0.2 ]
280 ..... [ 0.0289 , 0.208 ]
281 ..... [ 0.0292 , 0.215 ]
282 ..... [ 0.0294 , 0.223 ]
283 ..... [ 0.0296 , 0.23 ]
284 ..... [ 0.0298 , 0.238 ]
285 ..... [ 0.0301 , 0.247 ]
286 ..... [ 0.0303 , 0.255 ]
287 ..... [ 0.0305 , 0.264 ]
288 ..... [ 0.0307 , 0.273 ]
289 ..... [ 0.0309 , 0.282 ]
290 ..... [ 0.0311 , 0.291 ]
291 ..... [ 0.0314 , 0.301 ]
292 ..... [ 0.0316 , 0.311 ]
293 ..... [ 0.0318 , 0.321 ]
294 ..... [ 0.032 , 0.331 ]
295 ..... [ 0.0322 , 0.341 ]
296 ..... [ 0.0324 , 0.352 ]
297 ..... [ 0.0326 , 0.362 ]
298 ..... [ 0.0328 , 0.373 ]
299 ..... [ 0.033 , 0.384 ]
300 ..... [ 0.0332 , 0.394 ]
301 ..... [ 0.0334 , 0.405 ]
302 ..... [ 0.0336 , 0.416 ]
303 ..... [ 0.0338 , 0.427 ]
304 ..... [ 0.034 , 0.438 ]
305 ..... [ 0.0342 , 0.448 ]
306 ..... [ 0.0344 , 0.459 ]
307 ..... [ 0.0346 , 0.47 ]
308 ..... [ 0.0348 , 0.481 ]
309 ..... [ 0.035 , 0.493 ]
310 ..... [ 0.0352 , 0.504 ]
311 ..... [ 0.0353 , 0.515 ]
312 ..... [ 0.0355 , 0.526 ]
313 ..... [ 0.0357 , 0.538 ]
314 ..... [ 0.0359 , 0.549 ]
315 ..... [ 0.0361 , 0.56 ]
316 ..... [ 0.0363 , 0.572 ]
317 ..... [ 0.0365 , 0.583 ]
318 ..... [ 0.0366 , 0.595 ]
319 ..... [ 0.0368 , 0.606 ]
320 ..... [ 0.037 , 0.618 ]
321 ..... [ 0.0372 , 0.63 ]
322 ..... [ 0.0374 , 0.641 ]
323 ..... [ 0.0375 , 0.653 ]
324 ..... [ 0.0377 , 0.665 ]
325 ..... [ 0.0379 , 0.677 ]
326 ..... NHYDovf=["Pond1-Over"],
327 *%-----|-----|
328 CONTINUOUS NASHYD ..... NHYD=["A2"], DT=[5] (min), AREA=[9.144] (ha),
329 ..... DWF=[0] (cms), CN/C=[68.4], IA=[4.67] (mm), N=[3], TP=[1.12] (hrs),
330 ..... Continuous simulation parameters:

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331 ..... IaREcper=[6] (hrs),
332 ..... SMIN=[-1] (mm), · SMAX=[-1] (mm), · SK=[0.03]/(mm),
333 ..... InterEventTime=[12] (hrs),
334 ..... Baseflow simulation parameters:
335 ..... BaseFlowOption=[1] ·, · InitGWResVol=[12] (mm), · GWResK=[0.95] (mm/day/mm),
336 ..... VHydCond=[.02] (mm/hr), · END=-1
337 *%-----|-----|
338 ADD HYD ..... NHYDsum=["J3"], · NHYDs to
add=["R2"+"A1A"+"A2"+"Pond1-Over"+"Pond1-Out"]
339 *%-----|-----|
340 ROUTE CHANNEL ..... NHYDout=["R3"], · NHYDin=["J3"], · RDT=[5] (min),
341 ..... CHLGTH=[ 396 ] (m), · CHSLOPE=[0.305] (%), · FPSLOPE=[0.305] (%),
342 ..... SECNUM=[ 1 ], · NSEG=[ 3 ]
343 ..... ( · SEGROUGH, · SEGDIST (m) )=[0.05, 20.3, -0.035, 25.43, 0.05, 43.65]
NSEG times
344 ..... ( · DISTANCE (m), · ELEVATION (m) )=[0, 75.94]
345 ..... [5.08, 75.73]
346 ..... [10.15, 75.63]
347 ..... [15.23, 75.56]
348 ..... [20.3, 75.36]
349 ..... [21.32, 75.15]
350 ..... [22.33, 75.04]
351 ..... [23.35, 74.98]
352 ..... [24.36, 75.13]
353 ..... [25.38, 75.21]
354 ..... [30.45, 75.36]
355 ..... [35.53, 75.5]
356 ..... [40.61, 75.85]
357 ..... [43.65, 76.04]
358 ..... [-1, -1]
359 *%-----|-----|
360 CONTINUOUS NASHYD ..... NHYD=["SOUTH-1"], · DT=[5] (min), · AREA=[20.21] (ha),
361 ..... DWF=[0] (cms), · CN/C=[35.5 ], · IA=[4.67] (mm), · N=[3], · TP=[1.4 ] (hrs),
362 ..... Continuous simulation parameters:
363 ..... IaREcper=[6] (hrs),
364 ..... SMIN=[-1] (mm), · SMAX=[-1] (mm), · SK=[0.03]/(mm),
365 ..... InterEventTime=[12] (hrs),
366 ..... Baseflow simulation parameters:
367 ..... BaseFlowOption=[1] ·, · InitGWResVol=[12] (mm), · GWResK=[0.95] (mm/day/mm),
368 ..... VHydCond=[.02] (mm/hr), · END=-1
369 *%-----|-----|
370 ADD HYD ..... NHYDsum=["J4"], · NHYDs to add=["R3"+"SOUTH-1"]
371 *%-----|-----|
372 ROUTE CHANNEL ..... NHYDout=["R4"], · NHYDin=["J4"], · RDT=[5] (min),
373 ..... CHLGTH=[ 482 ] (m), · CHSLOPE=[0.41] (%), · FPSLOPE=[0.41] (%),
374 ..... SECNUM=[ 1 ], · NSEG=[ 3 ]
375 ..... ( · SEGROUGH, · SEGDIST (m) )=[0.05, 20.48, -0.035, 24.1, 0.05, 40.97]
NSEG times
376 ..... ( · DISTANCE (m), · ELEVATION (m) )=[0.00, 75.19]
377 ..... [4.82, 75.02]
378 ..... [10.84, 74.46]
379 ..... [20.48, 73.88]
380 ..... [21.69, 73.71]
381 ..... [22.89, 73.79]
382 ..... [24.1, 74.07]
383 ..... [25.3, 74.18]
384 ..... [30.12, 74.6]
385 ..... [34.94, 74.69]
386 ..... [40.97, 75.14]
387 ..... [-1, -1]
388 *%-----|-----|
389 CONTINUOUS NASHYD ..... NHYD=["SOUTH-2"], · DT=[5] (min), · AREA=[11.612] (ha),
390 ..... DWF=[0] (cms), · CN/C=[36.7 ], · IA=[4.67] (mm), · N=[3], · TP=[0.96 ] (hrs),
391 ..... Continuous simulation parameters:
392 ..... IaREcper=[6] (hrs),
393 ..... SMIN=[-1] (mm), · SMAX=[-1] (mm), · SK=[0.03]/(mm),
394 ..... InterEventTime=[12] (hrs),
395 ..... Baseflow simulation parameters:
396 ..... BaseFlowOption=[1] ·, · InitGWResVol=[12] (mm), · GWResK=[0.95] (mm/day/mm),

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397 .....VHydCond=[.02] (mm/hr), END=-1
398 *%-----|-----|
399 ADD HYD .....NHYDsum=["J5"], NHYDs to add=["R4"+"SOUTH-2"]
400 *%-----|-----|
401 ROUTE CHANNEL .....NHYDout=["R5"], NHYDin=["J5"], RDT=[5] (min),
402 .....CHLGTH=[181] (m), CHSLOPE=[0.5] (%), FPSLOPE=[0.5] (%),
403 .....SECNUM=[ 1 ], NSEG=[ 3 ]
404 .....( SEGROUGH, SEGDIST (m))=[0.05, 42.50, -0.035, 47.69, 0.05, 65.31]
.....NSEG times
405 .....( DISTANCE (m), ELEVATION (m))=[0.000, 75.10]
406 .....[10.37, 74.34]
407 .....[20.73, 73.72]
408 .....[30.06, 73.11]
409 .....[42.50, 72.86]
410 .....[45.61, 72.59]
411 .....[47.69, 72.82]
412 .....[60.13, 73.68]
413 .....[65.31, 74.98]
414 .....[-1, -1]
415 *%-----|-----|
416 CONTINUOUS NASHYD .....NHYD=["SOUTH-3"], DT=[5] (min), AREA=[7.982] (ha),
417 .....DWF=[0] (cms), CN/C=[42.6 ], IA=[4.67] (mm), N=[3], TP=[0.89 ] (hrs),
418 .....Continuous simulation parameters:
419 .....IaRECper=[6] (hrs),
420 .....SMIN=[-1] (mm), SMAX=[-1] (mm), SK=[0.03]/(mm),
421 .....InterEventTime=[12] (hrs),
422 .....Baseflow simulation parameters:
423 .....BaseFlowOption=[1], InitGWResVol=[12] (mm), GWResK=[0.95] (mm/day/mm),
424 .....VHydCond=[.02] (mm/hr), END=-1
425 *%-----|-----|
426 ADD HYD .....NHYDsum=["J6"], NHYDs to add=["R5"+"SOUTH-3"]
427 *%-----|-----|
428 SAVE HYD .....NHYD=["J6"], # OF PCYCLES=[-1], ICASEsh=[1]
429 .....HYD_COMMENT=["J6-Bearbrook Tributary Upstream of Thunder Road
.....Crossing"]
430 *%-----|-----|
431 ROUTE CHANNEL .....NHYDout=["R6"], NHYDin=["J6"], RDT=[5] (min),
432 .....CHLGTH=[ 323 ] (m), CHSLOPE=[0.44] (%), FPSLOPE=[0.44] (%),
433 .....SECNUM=[ 1 ], NSEG=[ 3 ]
434 .....( SEGROUGH, SEGDIST (m))=[0.05, 20.48, -0.035, 24.1, 0.05, 40.97]
.....NSEG times
435 .....( DISTANCE (m), ELEVATION (m))=[0, 75.19]
436 .....[4.82, 75.02]
437 .....[10.84, 74.46]
438 .....[20.48, 73.88]
439 .....[21.69, 73.71]
440 .....[22.89, 73.79]
441 .....[24.1, 74.07]
442 .....[25.3, 74.18]
443 .....[30.12, 74.6]
444 .....[34.94, 74.69]
445 .....[40.97, 75.14]
446 .....[-1, -1]
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448 CONTINUOUS NASHYD .....NHYD=["SOUTH-4"], DT=[5] (min), AREA=[14.985] (ha),
449 .....DWF=[0] (cms), CN/C=[39.5 ], IA=[4.67] (mm), N=[3], TP=[1.23 ] (hrs),
450 .....Continuous simulation parameters:
451 .....IaRECper=[6] (hrs),
452 .....SMIN=[-1] (mm), SMAX=[-1] (mm), SK=[0.03]/(mm),
453 .....InterEventTime=[12] (hrs),
454 .....Baseflow simulation parameters:
455 .....BaseFlowOption=[1], InitGWResVol=[12] (mm), GWResK=[0.95] (mm/day/mm),
456 .....VHydCond=[.02] (mm/hr), END=-1
457 *%-----|-----|
458 ADD HYD .....NHYDsum=["Total"], NHYDs to add=["R6"+"SOUTH-4"]
459 *%-----|-----|
460 *#=====|=====|
461 * .....DESIGN STORMS
462 *#=====|=====|

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466 *#*****
467 *# STORMS
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469 START ..... TZERO=[1968.0401], METOUT=[2], NSTORM=[0], NRUN=[1968]
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543 START ..... TZERO=[2007.0401], METOUT=[2], NSTORM=[0], NRUN=[2007]
544 *%-----|-----|
545 FINISH
546
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00004 S W M M M M H H Y Y M M O O 2 0 0 11 5 .....
00005 SSSS W M M M H H Y Y M M O O 2 0 0 11 5 Ver 5.000 .....
00006 S W M M M M H H Y Y M M O O 222 0 0 11 555 FEB 2013 .....
00007 SSSS W M M M H H Y Y M M O O 2 0 0 11 5 .....
00008 .....
00009 Stormwater Management Hydrologic Model 222 000 11 555 .....
00010 .....
00011 .....
00012 \*\*\*\*\* SWMSWHD Ver 5.000 \*\*\*\*\*
00013 \*\*\*\*\* A single event and continuous hydrologic simulation model \*\*\*\*\*
00014 \*\*\*\*\* based on the principles of HYMO and its successors \*\*\*\*\*
00015 \*\*\*\*\* C:\Temp\202407-31\202407-31\SWMSWHD-81 and SWMSWHD-89 \*\*\*\*\*
00016 \*\*\*\*\* distributed by: J.F. Sabourin and Associates Inc. \*\*\*\*\*
00017 \*\*\*\*\* Ottawa, Ontario: (613) 836-3884 \*\*\*\*\*
00018 \*\*\*\*\* Gatineau, Quebec: (819) 243-6858 \*\*\*\*\*
00019 \*\*\*\*\* E-mail: jsabourin@jfsa.com \*\*\*\*\*
00020 \*\*\*\*\*
00021 \*\*\*\*\*
00022 \*\*\*\*\*
00023 \*\*\*\*\*
00024 \*\*\*\*\* Licensed user: JFSaInc. \*\*\*\*\*
00025 \*\*\*\*\* SERIAL#:2549237 \*\*\*\*\*
00026 \*\*\*\*\*
00027 \*\*\*\*\*
00028 \*\*\*\*\*
00029 \*\*\*\*\* PROGRAM ARRAY DIMENSIONS \*\*\*\*\*
00030 \*\*\*\*\* Maximum Value for ID numbers = 31 \*\*\*\*\*
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 \*\*\*\*\* RUN DATE: 2024-07-31 TIME: 20:01:32 RUN COUNTER: 000908 \*\*\*\*\*
00038 \*\*\*\*\* \*\*\*\*\*
00039 \*\*\*\*\* Input file: C:\Temp\202407-31\202407-31\SWMSWHD-81-Post-Cont\SWMSWHD-81-Post-Cont.dat \*\*\*\*\*
00040 \*\*\*\*\* Output file: C:\Temp\202407-31\202407-31\SWMSWHD-81-Post-Cont\SWMSWHD-81-Post-Cont.out \*\*\*\*\*
00041 \*\*\*\*\* Summary file: C:\Temp\202407-31\202407-31\SWMSWHD-81-Post-Cont\SWMSWHD-81-Post-Cont.sum \*\*\*\*\*
00042 \*\*\*\*\* User comments: \*\*\*\*\*
00043 \*\*\*\*\* 1: \*\*\*\*\*
00044 \*\*\*\*\* 2: \*\*\*\*\*
00045 \*\*\*\*\* 3: \*\*\*\*\*
00046 \*\*\*\*\* \*\*\*\*\*
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00048 \*\*\*\*\*
00049 \*\*\*\*\*
00050 \*\*\*\*\*
00051 \*\*\*\*\* SWMSWHD / INPUT DATA FILE \*\*\*\*\*
00052 \*\*\*\*\* \*\*\*\*\*
00053 \*\*\*\*\* Project Name: [THUNDER ROAD] Project Number: [2128] \*\*\*\*\*
00054 \*\*\*\*\* Date: [04-28-2021] \*\*\*\*\*
00055 \*\*\*\*\* Modeler: [J.B.] \*\*\*\*\*
00056 \*\*\*\*\* Company: [JFSaInc.] \*\*\*\*\*
00057 \*\*\*\*\* License #: [2549237] \*\*\*\*\*
00058 \*\*\*\*\* \*\*\*\*\*
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00061 \*\*\*\*\* \*\* END OF RUN : 1966 \*\*\*\*\*
00062 \*\*\*\*\*
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02526 [MAX_AVRG_RAINFALL_INTENSITIES OVER]
02527 [1 HR 2 HR 3 HR 6 HR 12 HR 24 HR 36 HR 48 HR 72 HR]
02528 [36.00 18.15 12.10 6.05 3.04 1.64 1.13 0.87 0.58 mm/hr]
02529 [2549.30 36.00 36.30 36.30 36.30 39.40 40.60 41.60 41.60]
02530 [1978018 1978018 1978018 1978018 1978018 1978018 1978018 1978018 1978018]
02531 [NUMBER OF RAINFALL EVENTS PER FOLLOWING INTERVENT TIME]
02532 [1 HR 2 HR 3 HR 6 HR 12 HR 24 HR 36 HR 48 HR 72 HR]
02533 [143 118 109 89 62 50 43 38 25]
02534 [NUMBER OF EVENTS WITH AT LEAST THE FOLLOWING DURATIONS]
02535 [3 HR 6 HR 12 HR 24 HR 36 HR 48 HR 72 HR]
02536 [142 67 37 13 3 0 0 0 0]
02537 [1/5 = 396 / 307 / 035]
02538 [VMAX = 491; DMAX = 153]
02539 *****
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02543 [MAX_AVRG_RAINFALL_INTENSITIES OVER]
02544 [1 HR 2 HR 3 HR 6 HR 12 HR 24 HR 36 HR 48 HR 72 HR]
02545 [36.00 18.15 12.10 6.05 3.04 1.64 1.13 0.87 0.58 mm/hr]
02546 [2549.30 36.00 36.30 36.30 36.30 39.40 40.60 41.60 41.60]
02547 [1978018 1978018 1978018 1978018 1978018 1978018 1978018 1978018 1978018]
02548 [NUMBER OF RAINFALL EVENTS PER FOLLOWING INTERVENT TIME]
02549 [1 HR 2 HR 3 HR 6 HR 12 HR 24 HR 36 HR 48 HR 72 HR]
02550 [143 118 109 89 62 50 43 38 25]
02551 [NUMBER OF EVENTS WITH AT LEAST THE FOLLOWING DURATIONS]
02552 [3 HR 6 HR 12 HR 24 HR 36 HR 48 HR 72 HR]
02553 [142 67 37 13 3 0 0 0 0]
02554 [1/5 = 396 / 307 / 035]
02555 [VMAX = 491; DMAX = 153]
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02560 [MAX_AVRG_RAINFALL_INTENSITIES OVER]
02561 [1 HR 2 HR 3 HR 6 HR 12 HR 24 HR 36 HR 48 HR 72 HR]
02562 [36.00 18.15 12.10 6.05 3.04 1.64 1.13 0.87 0.58 mm/hr]
02563 [2549.30 36.00 36.30 36.30 36.30 39.40 40.60 41.60 41.60]
02564 [1978018 1978018 1978018 1978018 1978018 1978018 1978018 1978018 1978018]
02565 [NUMBER OF RAINFALL EVENTS PER FOLLOWING INTERVENT TIME]
02566 [1 HR 2 HR 3 HR 6 HR 12 HR 24 HR 36 HR 48 HR 72 HR]
02567 [143 118 109 89 62 50 43 38 25]
02568 [NUMBER OF EVENTS WITH AT LEAST THE FOLLOWING DURATIONS]
02569 [3 HR 6 HR 12 HR 24 HR 36 HR 48 HR 72 HR]
02570 [142 67 37 13 3 0 0 0 0]
02571 [1/5 = 396 / 307 / 035]
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02577 [MAX_AVRG_RAINFALL_INTENSITIES OVER]
02578 [1 HR 2 HR 3 HR 6 HR 12 HR 24 HR 36 HR 48 HR 72 HR]
02579 [36.00 18.15 12.10 6.05 3.04 1.64 1.13 0.87 0.58 mm/hr]
02580 [2549.30 36.00 36.30 36.30 36.30 39.40 40.60 41.60 41.60]
02581 [1978018 1978018 1978018 1978018 1978018 1978018 1978018 1978018 1978018]
02582 [NUMBER OF RAINFALL EVENTS PER FOLLOWING INTERVENT TIME]
02583 [1 HR 2 HR 3 HR 6 HR 12 HR 24 HR 36 HR 48 HR 72 HR]
02584 [143 118 109 89 62 50 43 38 25]
02585 [NUMBER OF EVENTS WITH AT LEAST THE FOLLOWING DURATIONS]
02586 [3 HR 6 HR 12 HR 24 HR 36 HR 48 HR 72 HR]
02587 [142 67 37 13 3 0 0 0 0]
02588 [1/5 = 396 / 307 / 035]
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02594 [MAX_AVRG_RAINFALL_INTENSITIES OVER]
02595 [1 HR 2 HR 3 HR 6 HR 12 HR 24 HR 36 HR 48 HR 72 HR]
02596 [36.00 18.15 12.10 6.05 3.04 1.64 1.13 0.87 0.58 mm/hr]
02597 [2549.30 36.00 36.30 36.30 36.30 39.40 40.60 41.60 41.60]
02598 [1978018 1978018 1978018 1978018 1978018 1978018 1978018 1978018 1978018]
02599 [NUMBER OF RAINFALL EVENTS PER FOLLOWING INTERVENT TIME]
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02602 [NUMBER OF EVENTS WITH AT LEAST THE FOLLOWING DURATIONS]
02603 [3 HR 6 HR 12 HR 24 HR 36 HR 48 HR 72 HR]
02604 [142 67 37 13 3 0 0 0 0]
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02612 [1 HR 2 HR 3 HR 6 HR 12 HR 24 HR 36 HR 48 HR 72 HR]
02613 [36.00 18.15 12.10 6.05 3.04 1.64 1.13 0.87 0.58 mm/hr]
02614 [2549.30 36.00 36.30 36.30 36.30 39.40 40.60 41.60 41.60]
02615 [1978018 1978018 1978018 1978018 1978018 1978018 1978018 1978018 1978018]
02616 [NUMBER OF RAINFALL EVENTS PER FOLLOWING INTERVENT TIME]
02617 [1 HR 2 HR 3 HR 6 HR 12 HR 24 HR 36 HR 48 HR 72 HR]
02618 [143 118 109 89 62 50 43 38 25]
02619 [NUMBER OF EVENTS WITH AT LEAST THE FOLLOWING DURATIONS]
02620 [3 HR 6 HR 12 HR 24 HR 36 HR 48 HR 72 HR]
02621 [142 67 37 13 3 0 0 0 0]
02622 [1/5 = 396 / 307 / 035]
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02628 [MAX_AVRG_RAINFALL_INTENSITIES OVER]
02629 [1 HR 2 HR 3 HR 6 HR 12 HR 24 HR 36 HR 48 HR 72 HR]
02630 [36.00 18.15 12.10 6.05 3.04 1.64 1.13 0.87 0.58 mm/hr]
02631 [2549.30 36.00 36.30 36.30 36.30 39.40 40.60 41.60 41.60]
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02635 [143 118 109 89 62 50 43 38 25]
02636 [NUMBER OF EVENTS WITH AT LEAST THE FOLLOWING DURATIONS]
02637 [3 HR 6 HR 12 HR 24 HR 36 HR 48 HR 72 HR]
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02645 [MAX_AVRG_RAINFALL_INTENSITIES OVER]
02646 [1 HR 2 HR 3 HR 6 HR 12 HR 24 HR 36 HR 48 HR 72 HR]
02647 [36.00 18.15 12.10 6.05 3.04 1.64 1.13 0.87 0.58 mm/hr]
02648 [2549.30 36.00 36.30 36.30 36.30 39.40 40.60 41.60 41.60]
02649 [1978018 1978018 1978018 1978018 1978018 1978018 1978018 1978018 1978018]
02650 [NUMBER OF RAINFALL EVENTS PER FOLLOWING INTERVENT TIME]
02651 [1 HR 2 HR 3 HR 6 HR 12 HR 24 HR 36 HR 48 HR 72 HR]
02652 [143 118 109 89 62 50 43 38 25]
02653 [NUMBER OF EVENTS WITH AT LEAST THE FOLLOWING DURATIONS]
02654 [3 HR 6 HR 12 HR 24 HR 36 HR 48 HR 72 HR]
02655 [142 67 37 13 3 0 0 0 0]
02656 [1/5 = 396 / 307 / 035]
02657 [VMAX = 491; DMAX = 153]
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02662 [MAX_AVRG_RAINFALL_INTENSITIES OVER]
02663 [1 HR 2 HR 3 HR 6 HR 12 HR 24 HR 36 HR 48 HR 72 HR]
02664 [36.00 18.15 12.10 6.05 3.04 1.64 1.13 0.87 0.58 mm/hr]
02665 [2549.30 36.00 36.30 36.30 36.30 39.40 40.60 41.60 41.60]
02666 [1978018 1978018 1978018 1978018 1978018 1978018 1978018 1978018 1978018]
02667 [NUMBER OF RAINFALL EVENTS PER FOLLOWING INTERVENT TIME]
02668 [1 HR 2 HR 3 HR 6 HR 12 HR 24 HR 36 HR 48 HR 72 HR]
02669 [143 118 109 89 62 50 43 38 25]
02670 [NUMBER OF EVENTS WITH AT LEAST THE FOLLOWING DURATIONS]
02671 [3 HR 6 HR 12 HR 24 HR 36 HR 48 HR 72 HR]
02672 [142 67 37 13 3 0 0 0 0]
02673 [1/5 = 396 / 307 / 035]
02674 [VMAX = 491; DMAX = 153]
02675 *****
02676 R1978-C0010 [FILENAME = YOM_1978_0010.DAT]
02677 [START_DATE = 1978.0401; END_DATE = 1978.1031]
02678 [DTR = 60; MIN_LEN = 5136; HRS = 358; WETDRY = 4796; PTOFF = 511.10]
02679 [MAX_AVRG_RAINFALL_INTENSITIES OVER]
02680 [1 HR 2 HR 3 HR 6 HR 12 HR 24 HR 36 HR 48 HR 72 HR]
02681 [36.00 18.15 12.10 6.05 3.04 1.64 1.13 0.87 0.58 mm/hr]
02682 [2549.30 36.00 36.30 36.30 36.30 39.40 40.60 41.60 41.60]
02683 [1978018 1978018 1978018 1978018 1978018 1978018 1978018 1978018 1978018]
02684 [NUMBER OF RAINFALL EVENTS PER FOLLOWING INTERVENT TIME]
02685 [1 HR 2 HR 3 HR 6 HR 12 HR 24 HR 36 HR 48 HR 72 HR]
02686 [143 118 109 89 62 50 43 38 25]
02687 [NUMBER OF EVENTS WITH AT LEAST THE FOLLOWING DURATIONS]
02688 [3 HR 6 HR 12 HR 24 HR 36 HR 48 HR 72 HR]
02689 [142 67 37 13 3 0 0 0 0]
02690 [1/5 = 396 / 307 / 035]
02691 [VMAX = 491; DMAX = 153]
02692 *****
02693 R1978-C0011 [FILENAME = YOM_1978_0011.DAT]
02694 [START_DATE = 1978.0401; END_DATE = 1978.1031]
02695 [DTR = 60; MIN_LEN = 5136; HRS = 358; WETDRY = 4796; PTOFF = 511.10]
02696 [MAX_AVRG_RAINFALL_INTENSITIES OVER]
02697 [1 HR 2 HR 3 HR 6 HR 12 HR 24 HR 36 HR 48 HR 72 HR]
02698 [36.00 18.15 12.10 6.05 3.04 1.64 1.13 0.87 0.58 mm/hr]
02699 [2549.30 36.00 36.30 36.30 36.30 39.40 40.60 41.60 41.60]
02700 [1978018 1978018 1978018 1978018 1978018 1978018 1978018 1978018 1978018]

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02881> CONTINUOUS NASHYD 5.0 01:32 9.14 .143 1979.0616.15:15 327.96 489 .000
02882> [Cm 42.7# 3.00: Tps 96]
02883> [IAREC 6.00: SMIN=48.56: SMAX=323.73: SK- 030]
02884> [InterEventTime= 12.00]
02885> 19179-C00024-----DtmIn-ID-NHYD-----AREHA-OPeARMS-TPeakDate_hh:mm-----Rvm-R.C-----DWfMS
02886> ADD HYD 5.0 02:82 68.26 .351 1979.0616.15:15 326.92 n/a .000
02887> [L/S#m= 396./ 305./035]
02888> + 5.0 02:82 9.14 .143 1979.0616.15:15 327.96 n/a .000
02889> + 5.0 02:PMd1-Over 0.00 .000 1979.0616.15:15 327.96 n/a .000
02890> SIM# 5.0 02:34 10.00 .031 1979.0616.15:10 267.49 n/a .000
02891> ROUTE CHANNEL -> 5.0 02:13 108.84 .577 1979.0616.15:10 321.20 n/a .000
02892> [L/S#m= 482./ 410./035]
02893> [Vmax = .380:Dmax= .158]
02894> 19179-C00024-----DtmIn-ID-NHYD-----AREHA-OPeARMS-TPeakDate_hh:mm-----Rvm-R.C-----DWfMS
02895> CONTINUOUS NASHYD 5.0 01:SOOTH-1 20.21 .085 1979.0616.15:10 325.16 485 .000
02896> [Cm 35.5# 3.00: Tps 96]
02897> [IAREC 6.00: SMIN=204.20: SMAX*****: SK- 030]
02898> [InterEventTime= 12.00]
02899> 19179-C00028-----DtmIn-ID-NHYD-----AREHA-OPeARMS-TPeakDate_hh:mm-----Rvm-R.C-----DWfMS
02900> ADD HYD 5.0 02:83 108.84 .577 1979.0616.15:25 321.20 n/a .000
02901> + 5.0 02:SOOTH-1 20.21 .085 1979.0616.15:10 325.16 n/a .000
02902> SIM# 5.0 01:24 129.05 .460 1979.0616.15:25 321.82 n/a .000
02903> 19179-C00027-----DtmIn-ID-NHYD-----AREHA-OPeARMS-TPeakDate_hh:mm-----Rvm-R.C-----DWfMS
02904> CONTINUOUS NASHYD 5.0 02:34 129.05 .460 1979.0616.15:25 321.82 n/a .000
02905> [L/S#m= 482./ 410./035]
02906> [Vmax = .380:Dmax= .158]
02907> 19179-C00028-----DtmIn-ID-NHYD-----AREHA-OPeARMS-TPeakDate_hh:mm-----Rvm-R.C-----DWfMS
02908> CONTINUOUS NASHYD 5.0 01:SOOTH-1 20.21 .085 1979.0616.15:10 325.16 485 .000
02909> [Cm 35.5# 3.00: Tps 96]
02910> [IAREC 6.00: SMIN=204.20: SMAX*****: SK- 030]
02911> [InterEventTime= 12.00]
02912> 19179-C00028-----DtmIn-ID-NHYD-----AREHA-OPeARMS-TPeakDate_hh:mm-----Rvm-R.C-----DWfMS
02913> CONTINUOUS NASHYD 5.0 01:SOOTH-2 11.61 .072 1979.0616.14:45 325.24 485 .000
02914> [Cm 36.7# 3.00: Tps 96]
02915> [IAREC 6.00: SMIN=191.09: SMAX*****: SK- 030]
02916> [InterEventTime= 12.00]
02917> 19179-C00029-----DtmIn-ID-NHYD-----AREHA-OPeARMS-TPeakDate_hh:mm-----Rvm-R.C-----DWfMS
02918> ADD HYD 5.0 02:85 129.05 .460 1979.0616.15:25 321.82 n/a .000
02919> + 5.0 02:SOOTH-2 11.61 .072 1979.0616.14:45 325.24 n/a .000
02920> SIM# 5.0 02:35 140.66 .692 1979.0616.15:30 322.10 n/a .000
02921> 19179-C00030-----DtmIn-ID-NHYD-----AREHA-OPeARMS-TPeakDate_hh:mm-----Rvm-R.C-----DWfMS
02922> CONTINUOUS NASHYD 5.0 01:24 140.66 .692 1979.0616.15:30 322.10 n/a .000
02923> [L/S#m= 482./ 410./035]
02924> [Vmax = .380:Dmax= .158]
02925> 19179-C00031-----DtmIn-ID-NHYD-----AREHA-OPeARMS-TPeakDate_hh:mm-----Rvm-R.C-----DWfMS
02926> CONTINUOUS NASHYD 5.0 01:SOOTH-3 7.98 .068 1979.0616.14:40 325.64 486 .000
02927> [Cm 42.7# 3.00: Tps 96]
02928> [IAREC 6.00: SMIN=141.94: SMAX=94.27: SK- 030]
02929> [InterEventTime= 12.00]
02930> 19179-C00032-----DtmIn-ID-NHYD-----AREHA-OPeARMS-TPeakDate_hh:mm-----Rvm-R.C-----DWfMS
02931> ADD HYD 5.0 02:85 140.66 .692 1979.0616.15:30 322.10 n/a .000
02932> + 5.0 01:SOOTH-3 7.98 .068 1979.0616.14:40 325.64 n/a .000
02933> SIM# 5.0 01:36 148.64 .729 1979.0616.15:30 322.29 n/a .000
02934> 19179-C00033-----DtmIn-ID-NHYD-----AREHA-OPeARMS-TPeakDate_hh:mm-----Rvm-R.C-----DWfMS
02935> SAVE HYD 5.0 02:85 148.64 .729 1979.0616.15:30 322.29 n/a .000
02936> fname i36.1979
02937> remark i36-Beauroak Tributary Upstream of Thunder Road Crossing
02938> 19179-C00034-----DtmIn-ID-NHYD-----AREHA-OPeARMS-TPeakDate_hh:mm-----Rvm-R.C-----DWfMS
02939> ROUTE CHANNEL -> 5.0 02:26 148.64 .729 1979.0616.15:30 322.29 n/a .000
02940> [L/S#m= 482./ 410./035]
02941> [Vmax = .380:Dmax= .158]
02942> 19179-C00035-----DtmIn-ID-NHYD-----AREHA-OPeARMS-TPeakDate_hh:mm-----Rvm-R.C-----DWfMS
02943> CONTINUOUS NASHYD 5.0 01:SOOTH-4 14.99 .083 1979.0616.15:10 325.40 486 .000
02944> [Cm 42.7# 3.00: Tps 96]
02945> [IAREC 6.00: SMIN=168.62: SMAX*****: SK- 030]
02946> [InterEventTime= 12.00]
02947> 19179-C00036-----DtmIn-ID-NHYD-----AREHA-OPeARMS-TPeakDate_hh:mm-----Rvm-R.C-----DWfMS
02948> ADD HYD 5.0 02:86 148.64 .729 1979.0616.15:40 322.29 n/a .000
02949> + 5.0 01:SOOTH-4 14.99 .083 1979.0616.15:10 325.40 n/a .000
02950> SIM# 5.0 01:Total 163.63 .792 1979.0616.15:35 322.58 n/a .000
02951> [L/S#m= 482./ 410./035]
02952> [Vmax = .380:Dmax= .158]
02953> *****
02954> *****
02955> *****
02956> *****
02957> *****
02958> *****
02959> *****
02960> ** END OF RUN : 1979
02961>
02962>
02963>
02964>
02965>
02966>
02967>
02968> RUN:COMMANDS
02969> 1980-C00001-----DtmIn-ID-NHYD-----AREHA-OPeARMS-TPeakDate_hh:mm-----Rvm-R.C-----DWfMS
02970> START [TZERO = .00 hrs on 19800401]
02971> [INSTORM = 2 [Imperial], 2:metric output]
02972> [INSTORM = 0]
02973> [INSTORM = 1980 ]
02974> *****
02975> *****
02976> # SWMNO / INPUT DATA FILE
02977> *****
02978> # Project Name [THUNDER ROAD] Project Number: [2128]
02979> # Date [04-28-2021]
02980> # Modeler [J.F.S.]
02981> # Company [JFSaInc.]
02982> # License # [2649237]
02983> *****
02984> # Ottawa International Airport - April list to October 31st
02985> *****
02986> 1980-C00002-----DtmIn-ID-NHYD-----AREHA-OPeARMS-TPeakDate_hh:mm-----Rvm-R.C-----DWfMS
02987> READ HEAD DATA
02988> [Filename = YOM_1967_2007_123 ]
02989> [Start date = 1980-04-01: End date = 1980-10-31]
02990> [Dtm 60:min: Length= 5136: hrs: Wcthrs= 365: Dryhrs= 4771: PTOV= 641.00]
02991> Maximum average rainfall intensities over
02992> 1 hr 2 hrs 3 hrs 6 hrs 12 hrs 24 hrs 36 hrs 48 hrs 72 hrs
02993> 15.00 18.40 22.80 42.80 47.20 48.60 46.60 62.00
02994> 19800830 19800830 19801025 19801025 19801025 19801025 19801025 19801025 19800902 date
02995> Number of rainfall events per following interval time
02996> 1 hr 2 hrs 3 hrs 6 hrs 12 hrs 24 hrs 36 hrs 48 hrs 72 hrs
02997> 134 112 98 82 69 63 55 43 38 23
02998> Number of events with least the following durations
02999> 1 hr 2 hrs 3 hrs 6 hrs 12 hrs 24 hrs 36 hrs 48 hrs 72 hrs
03000> 233 77
03001> 77
03002>
03003> 1980-C00003-----DtmIn-ID-NHYD-----AREHA-OPeARMS-TPeakDate_hh:mm-----Rvm-R.C-----DWfMS
03004> COMPUTE API
03005> [APIini = 50.00: APIkdy = 9000: APIkdt = 9956]
03006> [APImax = 68.72: APIavg = 24.31: APImin = 3.26]
03007> 1980-C00004-----DtmIn-ID-NHYD-----AREHA-OPeARMS-TPeakDate_hh:mm-----Rvm-R.C-----DWfMS
03008> CONTINUOUS NASHYD 5.0 01:30ERTH-1 34.70 .043 1980.1026. 3:05 162.22 300 .000
03009> [Cm 38.1# 3.00: Tps 96]
03010> [IAREC 6.00: SMIN=168.62: SMAX*****: SK- 030]
03011> [InterEventTime= 12.00]
03012> 1980-C00005-----DtmIn-ID-NHYD-----AREHA-OPeARMS-TPeakDate_hh:mm-----Rvm-R.C-----DWfMS
03013> CONTINUOUS NASHYD 5.0 01:30ERTH-2 12.44 .038 1980.1026. 0:35 164.97 305 .000
03014> [Cm 51.0# 3.00: Tps 1.29]
03015> [IAREC 6.00: SMIN 91.01: SMAX=606.70: SK- 030]
03016> [InterEventTime= 12.00]
03017> 1980-C00006-----DtmIn-ID-NHYD-----AREHA-OPeARMS-TPeakDate_hh:mm-----Rvm-R.C-----DWfMS
03018> CONTINUOUS NASHYD 5.0 01:30RY-1 2.36 .017 1980.0901.21:20 175.78 325 .000
03019> [Cm 17.1# 3.00: Tps 1.21]
03020> [IAREC 6.00: SMIN=168.62: SMAX*****: SK- 030]
03021> [InterEventTime= 12.00]
03022> 1980-C00007-----DtmIn-ID-NHYD-----AREHA-OPeARMS-TPeakDate_hh:mm-----Rvm-R.C-----DWfMS
03023> ADD HYD 5.0 02:30ERTH-1 34.70 .043 1980.1026. 3:05 162.22 n/a .000
03024> + 5.0 02:30ERTH-2 12.44 .038 1980.1026. 0:35 164.97 n/a .000
03025> + 5.0 02:30RY-1 2.36 .017 1980.0901.21:20 175.78 n/a .000
03026> SIM# 5.0 01:31 49.51 .090 1980.1026. 0:45 163.56 n/a .000
03027> 1980-C00008-----DtmIn-ID-NHYD-----AREHA-OPeARMS-TPeakDate_hh:mm-----Rvm-R.C-----DWfMS
03028> ROUTE CHANNEL -> 5.0 02:21 49.51 .090 1980.1026. 0:45 163.56 n/a .000
03029> [L/S#m= 482./ 440./035]
03030> [Vmax = .380:Dmax= .158]
03031> 1980-C00009-----DtmIn-ID-NHYD-----AREHA-OPeARMS-TPeakDate_hh:mm-----Rvm-R.C-----DWfMS
03032> CONTINUOUS NASHYD 5.0 01:2NT-1 3.61 .010 1980.1026. 0:25 163.76 303 .000
03033> [Cm 64.4# 3.00: Tps 1.26]
03034> [IAREC 6.00: SMIN 91.01: SMAX=448.24: SK- 030]
03035> [InterEventTime= 12.00]
03036> 1980-C00010-----DtmIn-ID-NHYD-----AREHA-OPeARMS-TPeakDate_hh:mm-----Rvm-R.C-----DWfMS
03037> CONTINUOUS NASHYD 5.0 01:2NT-2 3.61 .010 1980.1026. 0:25 163.76 303 .000
03038> [Cm 47.4# 3.00: Tps 96]
03039> [IAREC 6.00: SMIN=168.62: SMAX*****: SK- 030]
03040> [InterEventTime= 12.00]
03041> 1980-C00011-----DtmIn-ID-NHYD-----AREHA-OPeARMS-TPeakDate_hh:mm-----Rvm-R.C-----DWfMS
03042> CONTINUOUS NASHYD 5.0 01:A3A 3.84 .013 1980.1026. 0:45 166.29 307 .000
03043> [Cm 58.4# 3.00: Tps 1.46]
03044> [IAREC 6.00: SMIN 91.01: SMAX=487.55: SK- 030]
03045> [InterEventTime= 12.00]
03046> 1980-C00012-----DtmIn-ID-NHYD-----AREHA-OPeARMS-TPeakDate_hh:mm-----Rvm-R.C-----DWfMS
03047> CONTINUOUS STANDBY 5.0 01:PMd3-in 1.21 .032 1980.0830.13:40 278.62 515 .000
03048> [XMP= 64:TIMP= 75]
03049> [Horton parameters: Pw= 76.20:Fc= 13.20:ICDCA=4.14: P*****]
03050> [Previous area: IArea= 4.67:SLIP=2.50:IMP= 100: LHM= 50.00: NHD= 0: ISCP= .0]
03051> [Impervious area: IArea= 1.57:SLIP=2.50:IMP= 100: NHD= 0: ISCP= .0]
03052> [IARECimp= 12.00: IAREC= 12.00]
03053> [IARECimp= 12.00: IAREC= 12.00]
03054> 1980-C00013-----DtmIn-ID-NHYD-----AREHA-OPeARMS-TPeakDate_hh:mm-----Rvm-R.C-----DWfMS
03055> ROUTE RESERVOIR -> 5.0 01:PMd3-Over 1.21 .032 1980.1026. 0:25 278.62 n/a .000
03056> over time <- 5.0 01:PMd3-Over 1.21 .032 1980.1026. 0:25 278.62 n/a .000
03057> out time <- 5.0 01:PMd3-Over 1.21 .032 1980.1026. 0:25 278.62 n/a .000
03058> [VoltoSet= 26388-01: h3, TotVolBy= 0.0000:0: h3, N-0:V= 0, TotDurOv= 0. hrs]
03059> 1980-C00014-----DtmIn-ID-NHYD-----AREHA-OPeARMS-TPeakDate_hh:mm-----Rvm-R.C-----DWfMS
03060> ADD HYD 5.0 01:PMd3-Over 1.21 .032 1980.1026. 0:25 278.62 n/a .000

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03961 CONTINUOUS NASHBY 5.0 01:30T-3 5.71 .039 1984.0813. 6:45 147.81 422 .000
03962 [Cm 36.1 W 3.001 Tpe 96]
03963 [IAREC 6.00] SMIN=487.55: SMAK=030]
03964 [InterEventTime= 12.00]
03965 *****
03966 ADD HYD + 5.0 02:01 49.51 .110 1984.0813. 8:05 147.56 n/a .000
03967 [IAREC 6.00] SMIN=151.09: SMAK=100]
03968 *****
03969 ADD HYD + 5.0 02:18 3.61 .018 1984.0813. 6:50 147.49 n/a .000
03970 *****
03971 CONTINUOUS NASHBY 5.0 01:30T-3 5.71 .039 1984.0813. 6:45 147.81 n/a .000
03972 [IAREC 6.00] SMIN=151.09: SMAK=100]
03973 *****
03974 CONTINUOUS NASHBY 5.0 01:30T-2 5.71 .039 1984.0813. 6:45 147.81 n/a .000
03975 [IAREC 6.00] SMIN=151.09: SMAK=100]
03976 *****
03977 CONTINUOUS NASHBY 5.0 01:30T-3 5.71 .039 1984.0813. 6:45 147.81 n/a .000
03978 [IAREC 6.00] SMIN=151.09: SMAK=100]
03979 *****
03980 CONTINUOUS NASHBY 5.0 01:30T-2 5.71 .039 1984.0813. 6:45 147.81 n/a .000
03981 [IAREC 6.00] SMIN=151.09: SMAK=100]
03982 *****
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04681 R1987C0025-----DRAIN-ID-NHYD-----AREAA-GPEARMS-TpeakDate_hh:mm-----RvM-R-C-----DWFMCS
04682 CONTINUOUS NASHYD 5.0 01:20T-1 20.21 .075 1987.0724.22:45 189.68 .336 .000
04683 [Cm: 35.5: N: 3.00: Tpe: 1.40]
04684 [IAREC: 6.00: SMIN:204.20: SMAX:*****: SK: .030]
04685 [InterEventTime: 12.00]
04686 R1987C0026-----DRAIN-ID-NHYD-----AREAA-GPEARMS-TpeakDate_hh:mm-----RvM-R-C-----DWFMCS
04687 ADD HYD + 5.0 02:SOOTH-1 20.21 .075 1987.0724.22:45 189.68 n/a .000
04688 [Cm: 35.5: N: 3.00: Tpe: 1.40]
04689 [IAREC: 6.00: SMIN:204.20: SMAX:*****: SK: .030]
04690 [InterEventTime: 12.00]
04691 R1987C0027-----DRAIN-ID-NHYD-----AREAA-GPEARMS-TpeakDate_hh:mm-----RvM-R-C-----DWFMCS
04692 ROUTE CHANNEL -> 5.0 02:12A 129.05 .555 1987.0724.22:55 191.61 n/a .000
04693 [RDY: 5.00] out-< 5.0 02:12A 129.05 .555 1987.0724.22:55 191.61 n/a .000
04694 [L/S/N: 482. / 410. / 035]
04695 [Vmax: .572: Dmax: .126]
04696 R1987C0028-----DRAIN-ID-NHYD-----AREAA-GPEARMS-TpeakDate_hh:mm-----RvM-R-C-----DWFMCS
04697 CONTINUOUS NASHYD 5.0 01:SOOTH-2 11.61 .056 1987.0724.22:25 189.73 .336 .000
04698 [Cm: 26.7: N: 3.00: Tpe: .96]
04699 [IAREC: 6.00: SMIN:191.09: SMAX:*****: SK: .030]
04700 [InterEventTime: 12.00]
04701 R1987C0029-----DRAIN-ID-NHYD-----AREAA-GPEARMS-TpeakDate_hh:mm-----RvM-R-C-----DWFMCS
04702 ADD HYD + 5.0 02:18A 129.05 .547 1987.0724.23:10 191.61 n/a .000
04703 [Cm: 26.7: N: 3.00: Tpe: .96]
04704 [IAREC: 6.00: SMIN:191.09: SMAX:*****: SK: .030]
04705 [InterEventTime: 12.00]
04706 R1987C0030-----DRAIN-ID-NHYD-----AREAA-GPEARMS-TpeakDate_hh:mm-----RvM-R-C-----DWFMCS
04707 ROUTE CHANNEL -> 5.0 01:25 140.66 .589 1987.0724.23:05 191.45 n/a .000
04708 [RDY: 5.00] out-< 5.0 01:25 140.66 .589 1987.0724.23:05 191.45 n/a .000
04709 [L/S/N: 181. / 500. / 035]
04710 [Vmax: .542: Dmax: .290]
04711 R1987C0031-----DRAIN-ID-NHYD-----AREAA-GPEARMS-TpeakDate_hh:mm-----RvM-R-C-----DWFMCS
04712 CONTINUOUS NASHYD 5.0 01:SOOTH-3 7.98 .050 1987.0724.23:20 189.39 .337 .000
04713 [Cm: 42.6: N: 3.00: Tpe: .89]
04714 [IAREC: 6.00: SMIN:141.94: SMAX:446.27: SK: .030]
04715 [InterEventTime: 12.00]
04716 R1987C0032-----DRAIN-ID-NHYD-----AREAA-GPEARMS-TpeakDate_hh:mm-----RvM-R-C-----DWFMCS
04717 ADD HYD + 5.0 02:SOOTH-3 7.98 .050 1987.0724.23:20 189.39 n/a .000
04718 [Cm: 42.6: N: 3.00: Tpe: .89]
04719 [IAREC: 6.00: SMIN:141.94: SMAX:446.27: SK: .030]
04720 [InterEventTime: 12.00]
04721 R1987C0033-----DRAIN-ID-NHYD-----AREAA-GPEARMS-TpeakDate_hh:mm-----RvM-R-C-----DWFMCS
04722 SAVE HYD + 5.0 01:26 148.64 .623 1987.0724.23:05 191.37 n/a .000
04723 [Cm: 42.6: N: 3.00: Tpe: .89]
04724 [IAREC: 6.00: SMIN:141.94: SMAX:446.27: SK: .030]
04725 [InterEventTime: 12.00]
04726 R1987C0034-----DRAIN-ID-NHYD-----AREAA-GPEARMS-TpeakDate_hh:mm-----RvM-R-C-----DWFMCS
04727 ROUTE CHANNEL -> 5.0 02:26 148.64 .623 1987.0724.23:05 191.37 n/a .000
04728 [RDY: 5.00] out-< 5.0 02:26 148.64 .623 1987.0724.23:05 191.37 n/a .000
04729 [L/S/N: 323. / 440. / 035]
04730 [Vmax: .601: Dmax: .335]
04731 R1987C0035-----DRAIN-ID-NHYD-----AREAA-GPEARMS-TpeakDate_hh:mm-----RvM-R-C-----DWFMCS
04732 CONTINUOUS NASHYD 5.0 01:SOOTH-4 14.99 .069 1987.0724.22:35 189.83 .336 .000
04733 [Cm: 39.5: N: 3.00: Tpe: 1.21]
04734 [IAREC: 6.00: SMIN:168.62: SMAX:*****: SK: .030]
04735 [InterEventTime: 12.00]
04736 R1987C0036-----DRAIN-ID-NHYD-----AREAA-GPEARMS-TpeakDate_hh:mm-----RvM-R-C-----DWFMCS
04737 ADD HYD + 5.0 02:26 148.64 .623 1987.0724.23:05 191.37 n/a .000
04738 [Cm: 39.5: N: 3.00: Tpe: 1.21]
04739 [IAREC: 6.00: SMIN:168.62: SMAX:*****: SK: .030]
04740 [InterEventTime: 12.00]
04741 R1987C0037-----DRAIN-ID-NHYD-----AREAA-GPEARMS-TpeakDate_hh:mm-----RvM-R-C-----DWFMCS
04742 ROUTE CHANNEL -> 5.0 02:26 148.64 .623 1987.0724.23:05 191.37 n/a .000
04743 [RDY: 5.00] out-< 5.0 02:26 148.64 .623 1987.0724.23:05 191.37 n/a .000
04744 [L/S/N: 323. / 440. / 035]
04745 [Vmax: .601: Dmax: .335]
04746 R1987C0038-----DRAIN-ID-NHYD-----AREAA-GPEARMS-TpeakDate_hh:mm-----RvM-R-C-----DWFMCS
04747 CONTINUOUS NASHYD 5.0 01:SOOTH-4 14.99 .069 1987.0724.22:35 189.83 .336 .000
04748 [Cm: 39.5: N: 3.00: Tpe: 1.21]
04749 [IAREC: 6.00: SMIN:168.62: SMAX:*****: SK: .030]
04750 [InterEventTime: 12.00]
04751 R1987C0039-----DRAIN-ID-NHYD-----AREAA-GPEARMS-TpeakDate_hh:mm-----RvM-R-C-----DWFMCS
04752 ADD HYD + 5.0 02:26 148.64 .623 1987.0724.23:05 191.37 n/a .000
04753 [Cm: 39.5: N: 3.00: Tpe: 1.21]
04754 [IAREC: 6.00: SMIN:168.62: SMAX:*****: SK: .030]
04755 [InterEventTime: 12.00]
04756 R1988C0001-----DRAIN-ID-NHYD-----AREAA-GPEARMS-TpeakDate_hh:mm-----RvM-R-C-----DWFMCS
04757 START [TZERR = .00 hrs on 19890401]
04758 [NETOUT = 2 (1=imperial, 2=metric output)]
04759 [NETIN = 1988]
04760 [RINR=*****]
04761 [RINR=*****]
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05401 R1990-C00036-----DtmIn-DtMND-----AREAA-QPEARCS-TpeakDate\_hh:mm-----RvM-R.C-----DWFCMS
05402 ADD HYD + 5.0 02:SOOTH-2 149.84 .062 1990.0720.14:40 241.23 n/a .000
05403 SIMM + 5.0 02:SOOTH-2 14.99 .071 1990.0720.14:15 242.37 n/a .000
05404 SIMM + 5.0 01:Total 163.63 .727 1990.0720.14:45 241.24 n/a .000
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05761 [Vmax :618;Dmax: 2.11]
05762 R1992-C0019-D-INTV-D-INTV-AREHA-GPEARMS-TpeakDate\_hh:mm-RvM-R-C--DWFCMS
05763 CONTINUOUS NASHDY 5.0 01:01A 21.43 .123 1992.0717.20:00 220.94 4.00 .000
05764 [Cm 36.1; Nv 3.00; Tpe 1.68]
05765 [IAREC: 6.00; SMIN:168.62; SMAX:\*\*\*\*\*; SK: .030]
05766 [InterEventTime: 12.00]
05767 R1992-C0019-D-INTV-D-INTV-AREHA-GPEARMS-TpeakDate\_hh:mm-RvM-R-C--DWFCMS
05768 CONTINUOUS STANDHYD 5.0 01:01Pond-in 10.00 .534 1992.0804.14:00 206.72 3.75 .000
05769 [XIMP: 38;TIMP: 74]
05770 [Horton parameters: Pw: 76.20;Pc: 13.20;DCAV+1.14; P+\*\*\*\*]
05771 [Previous area: Aperc: 4.67;SLP+2.00;LDP: 500.00;MP: 250;SCP: .0]
05772 [Impervious area: IASPC: 1.57;SLP+2.50;LGI: 50.0;MHI: 0.13;ICT: .0]
05773 [IARECimp: 12.00; IARECpcc: 12.00]
05774 R1992-C0021-D-INTV-D-INTV-AREHA-GPEARMS-TpeakDate\_hh:mm-RvM-R-C--DWFCMS
05775 ROUTE RESERVOIR -> 5.0 02:10Pond-in 10.00 .534 1992.0804.14:00 206.73 n/a .000
05776 [RDV: 5.00] out-> 5.0 01:01Pond-out 10.00 .030 1992.0804.16:20 206.73 n/a .000
05777 [MxStoUsed: 25298.00; M3: TotDvVol: 0.0000; M3: M-OvF: 0. TotDvOvF: 0.0hrs]
05778 R1992-C0022-D-INTV-D-INTV-AREHA-GPEARMS-TpeakDate\_hh:mm-RvM-R-C--DWFCMS
05779 CONTINUOUS NASHDY 5.0 01:02 11.61 .171 1992.0717.19:20 221.48 4.00 .000
05780 [Cm 68.4; Nv 3.00; Tpe 1.12]
05781 [IAREC: 6.00; SMIN:48.54; SMAX:323.73; SK: .030]
05782 [InterEventTime: 12.00]
05783 R1992-C0023-D-INTV-D-INTV-AREHA-GPEARMS-TpeakDate\_hh:mm-RvM-R-C--DWFCMS
05784 ADD HYD 5.0 02:02R8 11.61 .171 1992.0717.19:20 221.46 n/a .000
05785 [L/S/In= 500./ 140./038]
05786 + 5.0 02:01A 21.43 .123 1992.0717.20:00 220.94 n/a .000
05787 + 5.0 02:02R8 11.61 .171 1992.0717.19:20 221.46 n/a .000
05788 + 5.0 02:01Pond-Over 10.00 .030 1992.0401.01:00 .000 n/a .000
05789 + 5.0 02:02R8 11.61 .171 1992.0717.19:20 221.46 n/a .000
05790 SIM: 5.0 01:02 11.61 .171 1992.0717.19:20 221.46 n/a .000
05791 R1992-C0024-D-INTV-D-INTV-AREHA-GPEARMS-TpeakDate\_hh:mm-RvM-R-C--DWFCMS
05792 ROUTE CHANNEL -> 5.0 02:12 108.84 .780 1992.0717.19:50 220.65 n/a .000
05793 [RDV: 5.00] out-> 5.0 01:03 108.84 .780 1992.0717.19:50 220.65 n/a .000
05794 [L/S/In= 396./ 305./035]
05795 [Vmax: 468;Dmax: 1.91]
05796 R1992-C0025-D-INTV-D-INTV-AREHA-GPEARMS-TpeakDate\_hh:mm-RvM-R-C--DWFCMS
05797 CONTINUOUS NASHDY 5.0 01:01 20.21 .123 1992.0717.19:40 220.92 4.00 .000
05798 [Cm 35.5; Nv 3.00; Tpe 1.40]
05799 [IAREC: 6.00; SMIN:204.20; SMAX:\*\*\*\*\*; SK: .030]
05800 [InterEventTime: 12.00]
05801 R1992-C0026-D-INTV-D-INTV-AREHA-GPEARMS-TpeakDate\_hh:mm-RvM-R-C--DWFCMS
05802 ADD HYD 5.0 02:02R8 20.21 .123 1992.0717.19:40 220.92 n/a .000
05803 [L/S/In= 359./ 560./035]
05804 + 5.0 02:02R8 20.21 .123 1992.0717.19:40 220.92 n/a .000
05805 + 5.0 02:02R8 20.21 .123 1992.0717.19:40 220.92 n/a .000
05806 + 5.0 02:02R8 20.21 .123 1992.0717.19:40 220.92 n/a .000
05807 ROUTE CHANNEL -> 5.0 02:24 129.05 .992 1992.0717.19:50 220.68 n/a .000
05808 [RDV: 5.00] out-> 5.0 01:24 129.05 .992 1992.0717.20:00 220.68 n/a .000
05809 [L/S/In= 482./ 410./035]
05810 [Vmax: 629;Dmax: 1.91]
05811 R1992-C0027-D-INTV-D-INTV-AREHA-GPEARMS-TpeakDate\_hh:mm-RvM-R-C--DWFCMS
05812 CONTINUOUS NASHDY 5.0 01:02R8 21.61 .090 1992.0717.19:20 220.94 4.00 .000
05813 [Cm 26.7; Nv 3.00; Tpe .96]
05814 [IAREC: 6.00; SMIN:191.09; SMAX:\*\*\*\*\*; SK: .030]
05815 [InterEventTime: 12.00]
05816 R1992-C0028-D-INTV-D-INTV-AREHA-GPEARMS-TpeakDate\_hh:mm-RvM-R-C--DWFCMS
05817 ADD HYD 5.0 02:12 21.61 .090 1992.0717.19:20 220.94 n/a .000
05818 [L/S/In= 323./ 440./035]
05819 + 5.0 02:12 21.61 .090 1992.0717.19:20 220.94 n/a .000
05820 + 5.0 01:35 140.66 .966 1992.0717.19:50 220.70 n/a .000
05821 R1992-C0029-D-INTV-D-INTV-AREHA-GPEARMS-TpeakDate\_hh:mm-RvM-R-C--DWFCMS
05822 ROUTE CHANNEL -> 5.0 02:15 140.66 .966 1992.0717.19:50 220.70 n/a .000
05823 [RDV: 5.00] out-> 5.0 01:15 140.66 .966 1992.0717.20:00 220.70 n/a .000
05824 [L/S/In= 502./ 334./035]
05825 [Vmax: 642;Dmax: 1.91]
05826 R1992-C0031-D-INTV-D-INTV-AREHA-GPEARMS-TpeakDate\_hh:mm-RvM-R-C--DWFCMS
05827 CONTINUOUS NASHDY 5.0 01:02R8-3 7.98 .080 1992.0717.19:15 221.03 4.00 .000
05828 [Cm 42.6; Nv 3.00; Tpe .89]
05829 [IAREC: 6.00; SMIN:148.94; SMAX:46.27; SK: .030]
05830 [InterEventTime: 12.00]
05831 R1992-C0032-D-INTV-D-INTV-AREHA-GPEARMS-TpeakDate\_hh:mm-RvM-R-C--DWFCMS
05832 ADD HYD 5.0 02:02R8 7.98 .080 1992.0717.19:15 221.03 n/a .000
05833 [L/S/In= 482./ 410./035]
05834 + 5.0 02:02R8 7.98 .080 1992.0717.19:15 221.03 n/a .000
05835 + 5.0 02:02R8 7.98 .080 1992.0717.19:15 221.03 n/a .000
05836 + 5.0 02:02R8 7.98 .080 1992.0717.19:15 221.03 n/a .000
05837 ROUTE CHANNEL -> 5.0 02:16 148.64 .102 1992.0717.19:50 220.72 n/a .000
05838 [RDV: 5.00] out-> 5.0 01:16 148.64 .102 1992.0717.20:00 220.72 n/a .000
05839 [L/S/In= 323./ 440./035]
05840 [Vmax: 667;Dmax: 1.91]
05841 R1992-C0033-D-INTV-D-INTV-AREHA-GPEARMS-TpeakDate\_hh:mm-RvM-R-C--DWFCMS
05842 CONTINUOUS NASHDY 5.0 01:02R8-4 14.99 .114 1992.0717.19:30 220.97 4.00 .000
05843 [Cm 35.5; Nv 3.00; Tpe 1.21]
05844 [IAREC: 6.00; SMIN:168.62; SMAX:\*\*\*\*\*; SK: .030]
05845 [InterEventTime: 12.00]
05846 R1992-C0034-D-INTV-D-INTV-AREHA-GPEARMS-TpeakDate\_hh:mm-RvM-R-C--DWFCMS
05847 ADD HYD 5.0 02:16 14.99 .114 1992.0717.19:30 220.97 n/a .000
05848 [L/S/In= 323./ 440./035]
05849 + 5.0 02:16 14.99 .114 1992.0717.19:30 220.97 n/a .000
05850 + 5.0 02:16 14.99 .114 1992.0717.19:30 220.97 n/a .000
05851 SIM: 5.0 01:02 11.61 .171 1992.0717.19:20 221.46 n/a .000
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06121 124 104 90 71 56 42 33 28 19
06122 Number of events with at least the following durations
06123 1 hr 2 hrs 3 hrs 6 hrs 12 hrs 24 hrs 36 hrs 48 hrs 72 hrs
06124 1 23 66 42 11 1 0 0 0 0
06125 \*\*\*\*\*
06126 COMPUTE API
06127 [APItime: 50.00: APIIdy: 9000: APIIdc: 9956]
06128 [APImax: 97.84: APIAvrg: 27.87: APImin: 6.14]
06129 \*\*\*\*\*
06130 CONTINUOUS NASHDY -----DtmIn-IDmHYD-----AREAA-QPEARCS-TpeaDate\_hh:mm-----Rvm-R.C-----DWFCMS
06131 [Cm: 81.7: N: 3.00: Tp: 4.12]
06132 [IAREC: 6.00: SMIN: 67.24: SMAX: 666.70: Ck: 030]
06133 [InterVntTime: 12.00]
06134 \*\*\*\*\*
06135 CONTINUOUS NASHDY -----DtmIn-IDmHYD-----AREAA-QPEARCS-TpeaDate\_hh:mm-----Rvm-R.C-----DWFCMS
06136 [Cm: 53.0: N: 3.00: Tp: 1.29]
06137 [IAREC: 6.00: SMIN: 31.01: SMAX: 606.70: Ck: 030]
06138 [InterVntTime: 12.00]
06139 \*\*\*\*\*
06140 CONTINUOUS NASHDY -----DtmIn-IDmHYD-----AREAA-QPEARCS-TpeaDate\_hh:mm-----Rvm-R.C-----DWFCMS
06141 [Cm: 47.4: N: 3.00: Tp: 1.21]
06142 [IAREC: 6.00: SMIN: 27.01: SMAX: 168.09: Ck: 030]
06143 [InterVntTime: 12.00]
06144 \*\*\*\*\*
06145 ADD HYD -----DtmIn-IDmHYD-----AREAA-QPEARCS-TpeaDate\_hh:mm-----Rvm-R.C-----DWFCMS
06146 [Cm: 5.0: N: 3.00: Tp: 1.21]
06147 [IAREC: 6.00: SMIN: 2.36: 022 1994.0627.1130 193.76 n/a .000]
06148 [InterVntTime: 12.00]
06149 \*\*\*\*\*
06150 ROUTE CHANNEL -----DtmIn-IDmHYD-----AREAA-QPEARCS-TpeaDate\_hh:mm-----Rvm-R.C-----DWFCMS
06151 [RDY: 5.00] out: 5.0 01:31 49.51 .099 1994.0627.1215 193.57 n/a .000
06152 [L/S/n: 478 / 440 / 035]
06153 [Vmax: .392:Dmax: .146]
06154 \*\*\*\*\*
06155 CONTINUOUS NASHDY -----DtmIn-IDmHYD-----AREAA-QPEARCS-TpeaDate\_hh:mm-----Rvm-R.C-----DWFCMS
06156 [Cm: 60.4: N: 3.00: Tp: 1.61]
06157 [IAREC: 6.00: SMIN: 47.24: SMAX: 448.24: Ck: 030]
06158 [InterVntTime: 12.00]
06159 \*\*\*\*\*
06160 CONTINUOUS NASHDY -----DtmIn-IDmHYD-----AREAA-QPEARCS-TpeaDate\_hh:mm-----Rvm-R.C-----DWFCMS
06161 [Cm: 47.4: N: 3.00: Tp: .95]
06162 [IAREC: 6.00: SMIN: 67.24: SMAX: 768.40: Ck: 030]
06163 [InterVntTime: 12.00]
06164 \*\*\*\*\*
06165 CONTINUOUS NASHDY -----DtmIn-IDmHYD-----AREAA-QPEARCS-TpeaDate\_hh:mm-----Rvm-R.C-----DWFCMS
06166 [Cm: 58.4: N: 3.00: Tp: 1.46]
06167 [IAREC: 6.00: SMIN: 48.55: SMAX: 487.55: Ck: 030]
06168 [InterVntTime: 12.00]
06169 \*\*\*\*\*
06170 CONTINUOUS STANDEHD -----DtmIn-IDmHYD-----AREAA-QPEARCS-TpeaDate\_hh:mm-----Rvm-R.C-----DWFCMS
06171 [XIMP: 64:TIMP: 74]
06172 [Horton parameters: Fw: 76.20:Fc: 13.20:DCAV: 4.14 P:\*\*\*\*]
06173 [Previous area: IAPm: 4.67:SLP:2.50:LDI: 50.0:NMH: 250:ISCT: 0]
06174 [Impervious area: IAPm: 1.57:SLP:1.50:LDI: 50.0:NMH: 013:ISCT: 0]
06175 [IARECimp: 12.00: IAREC: 12.00]
06176 \*\*\*\*\*
06177 ROUTE RESERVOIR -----DtmIn-IDmHYD-----AREAA-QPEARCS-TpeaDate\_hh:mm-----Rvm-R.C-----DWFCMS
06178 [MsdToSeed: .5774E+01 m3, TotVol: 0.0000E+00 m3, N-ovr: 0, TotDvOfV: 0 hrs]
06179 [overFlow: 5.0 01:30:01-out 1.21 .000 1994.0601.0:00 .00 n/a .000]
06180 [MsdToSeed: .5774E+01 m3, N-ovr: 0, TotDvOfV: 0 hrs]
06181 \*\*\*\*\*
06182 ADD HYD -----DtmIn-IDmHYD-----AREAA-QPEARCS-TpeaDate\_hh:mm-----Rvm-R.C-----DWFCMS
06183 [Cm: 5.0: N: 3.00: Tp: 1.21]
06184 [IAREC: 6.00: SMIN: 2.36: 022 1994.0627.1130 193.76 n/a .000]
06185 [InterVntTime: 12.00]
06186 \*\*\*\*\*
06187 CONTINUOUS NASHDY -----DtmIn-IDmHYD-----AREAA-QPEARCS-TpeaDate\_hh:mm-----Rvm-R.C-----DWFCMS
06188 [Cm: 53.0: N: 3.00: Tp: 1.29]
06189 [IAREC: 6.00: SMIN: 31.01: SMAX: 606.70: Ck: 030]
06190 [InterVntTime: 12.00]
06191 \*\*\*\*\*
06192 CONTINUOUS NASHDY -----DtmIn-IDmHYD-----AREAA-QPEARCS-TpeaDate\_hh:mm-----Rvm-R.C-----DWFCMS
06193 [Cm: 47.4: N: 3.00: Tp: 1.21]
06194 [IAREC: 6.00: SMIN: 27.01: SMAX: 168.09: Ck: 030]
06195 [InterVntTime: 12.00]
06196 \*\*\*\*\*
06197 CONTINUOUS NASHDY -----DtmIn-IDmHYD-----AREAA-QPEARCS-TpeaDate\_hh:mm-----Rvm-R.C-----DWFCMS
06198 [Cm: 58.4: N: 3.00: Tp: 1.46]
06199 [IAREC: 6.00: SMIN: 48.55: SMAX: 487.55: Ck: 030]
06200 [InterVntTime: 12.00]
06201 \*\*\*\*\*
06202 CONTINUOUS STANDEHD -----DtmIn-IDmHYD-----AREAA-QPEARCS-TpeaDate\_hh:mm-----Rvm-R.C-----DWFCMS
06203 [XIMP: 64:TIMP: 74]
06204 [Horton parameters: Fw: 76.20:Fc: 13.20:DCAV: 4.14 P:\*\*\*\*]
06205 [Previous area: IAPm: 4.67:SLP:2.50:LDI: 50.0:NMH: 250:ISCT: 0]
06206 [Impervious area: IAPm: 1.57:SLP:1.50:LDI: 50.0:NMH: 013:ISCT: 0]
06207 [IARECimp: 12.00: IAREC: 12.00]
06208 \*\*\*\*\*
06209 ROUTE CHANNEL -----DtmIn-IDmHYD-----AREAA-QPEARCS-TpeaDate\_hh:mm-----Rvm-R.C-----DWFCMS
06210 [RDY: 5.00] out: 5.0 02:22 68.26 .173 1994.0627.1205 195.01 n/a .000
06211 [L/S/n: 359 / 560 / 035]
06212 \*\*\*\*\*
06213 CONTINUOUS NASHDY -----DtmIn-IDmHYD-----AREAA-QPEARCS-TpeaDate\_hh:mm-----Rvm-R.C-----DWFCMS
06214 [Cm: 48.4: N: 3.00: Tp: 1.62]
06215 [IAREC: 6.00: SMIN: 48.56: SMAX: 323.73: Ck: 030]
06216 [InterVntTime: 12.00]
06217 \*\*\*\*\*
06218 CONTINUOUS STANDEHD -----DtmIn-IDmHYD-----AREAA-QPEARCS-TpeaDate\_hh:mm-----Rvm-R.C-----DWFCMS
06219 [XIMP: 64:TIMP: 74]
06220 [Horton parameters: Fw: 76.20:Fc: 13.20:DCAV: 4.14 P:\*\*\*\*]
06221 [Previous area: IAPm: 4.67:SLP:2.50:LDI: 50.0:NMH: 250:ISCT: 0]
06222 [Impervious area: IAPm: 1.57:SLP:1.50:LDI: 50.0:NMH: 013:ISCT: 0]
06223 [IARECimp: 12.00: IAREC: 12.00]
06224 \*\*\*\*\*
06225 ROUTE RESERVOIR -----DtmIn-IDmHYD-----AREAA-QPEARCS-TpeaDate\_hh:mm-----Rvm-R.C-----DWFCMS
06226 [MsdToSeed: .1223E+00 m3, TotVol: 0.0000E+00 m3, N-ovr: 0, TotDvOfV: 0 hrs]
06227 [overFlow: 5.0 01:30:01-out 1.00 .267 1994.0629.13:00 190.67 n/a .000]
06228 [MsdToSeed: .1223E+00 m3, N-ovr: 0, TotDvOfV: 0 hrs]
06229 \*\*\*\*\*
06230 CONTINUOUS NASHDY -----DtmIn-IDmHYD-----AREAA-QPEARCS-TpeaDate\_hh:mm-----Rvm-R.C-----DWFCMS
06231 [Cm: 60.4: N: 3.00: Tp: 1.61]
06232 [IAREC: 6.00: SMIN: 47.24: SMAX: 448.24: Ck: 030]
06233 [InterVntTime: 12.00]
06234 \*\*\*\*\*
06235 CONTINUOUS NASHDY -----DtmIn-IDmHYD-----AREAA-QPEARCS-TpeaDate\_hh:mm-----Rvm-R.C-----DWFCMS
06236 [Cm: 58.4: N: 3.00: Tp: 1.46]
06237 [IAREC: 6.00: SMIN: 48.55: SMAX: 487.55: Ck: 030]
06238 [InterVntTime: 12.00]
06239 \*\*\*\*\*
06240 CONTINUOUS NASHDY -----DtmIn-IDmHYD-----AREAA-QPEARCS-TpeaDate\_hh:mm-----Rvm-R.C-----DWFCMS
06241 [Cm: 47.4: N: 3.00: Tp: 1.21]
06242 [IAREC: 6.00: SMIN: 27.01: SMAX: 168.09: Ck: 030]
06243 [InterVntTime: 12.00]
06244 \*\*\*\*\*
06245 CONTINUOUS NASHDY -----DtmIn-IDmHYD-----AREAA-QPEARCS-TpeaDate\_hh:mm-----Rvm-R.C-----DWFCMS
06246 [Cm: 58.4: N: 3.00: Tp: 1.46]
06247 [IAREC: 6.00: SMIN: 48.55: SMAX: 487.55: Ck: 030]
06248 [InterVntTime: 12.00]
06249 \*\*\*\*\*
06250 CONTINUOUS NASHDY -----DtmIn-IDmHYD-----AREAA-QPEARCS-TpeaDate\_hh:mm-----Rvm-R.C-----DWFCMS
06251 [Cm: 53.0: N: 3.00: Tp: 1.29]
06252 [IAREC: 6.00: SMIN: 31.01: SMAX: 606.70: Ck: 030]
06253 [InterVntTime: 12.00]
06254 \*\*\*\*\*
06255 CONTINUOUS NASHDY -----DtmIn-IDmHYD-----AREAA-QPEARCS-TpeaDate\_hh:mm-----Rvm-R.C-----DWFCMS
06256 [Cm: 47.4: N: 3.00: Tp: 1.21]
06257 [IAREC: 6.00: SMIN: 27.01: SMAX: 168.09: Ck: 030]
06258 [InterVntTime: 12.00]
06259 \*\*\*\*\*
06260 CONTINUOUS NASHDY -----DtmIn-IDmHYD-----AREAA-QPEARCS-TpeaDate\_hh:mm-----Rvm-R.C-----DWFCMS
06261 [Cm: 58.4: N: 3.00: Tp: 1.46]
06262 [IAREC: 6.00: SMIN: 48.55: SMAX: 487.55: Ck: 030]
06263 [InterVntTime: 12.00]
06264 \*\*\*\*\*
06265 CONTINUOUS NASHDY -----DtmIn-IDmHYD-----AREAA-QPEARCS-TpeaDate\_hh:mm-----Rvm-R.C-----DWFCMS
06266 [Cm: 47.4: N: 3.00: Tp: 1.21]
06267 [IAREC: 6.00: SMIN: 27.01: SMAX: 168.09: Ck: 030]
06268 [InterVntTime: 12.00]
06269 \*\*\*\*\*
06270 CONTINUOUS NASHDY -----DtmIn-IDmHYD-----AREAA-QPEARCS-TpeaDate\_hh:mm-----Rvm-R.C-----DWFCMS
06271 [Cm: 53.0: N: 3.00: Tp: 1.29]
06272 [IAREC: 6.00: SMIN: 31.01: SMAX: 606.70: Ck: 030]
06273 [InterVntTime: 12.00]
06274 \*\*\*\*\*
06275 CONTINUOUS NASHDY -----DtmIn-IDmHYD-----AREAA-QPEARCS-TpeaDate\_hh:mm-----Rvm-R.C-----DWFCMS
06276 [Cm: 47.4: N: 3.00: Tp: 1.21]
06277 [IAREC: 6.00: SMIN: 27.01: SMAX: 168.09: Ck: 030]
06278 [InterVntTime: 12.00]
06279 \*\*\*\*\*
06280 CONTINUOUS NASHDY -----DtmIn-IDmHYD-----AREAA-QPEARCS-TpeaDate\_hh:mm-----Rvm-R.C-----DWFCMS
06281 [Cm: 58.4: N: 3.00: Tp: 1.46]
06282 [IAREC: 6.00: SMIN: 48.55: SMAX: 487.55: Ck: 030]
06283 [InterVntTime: 12.00]
06284 \*\*\*\*\*
06285 CONTINUOUS NASHDY -----DtmIn-IDmHYD-----AREAA-QPEARCS-TpeaDate\_hh:mm-----Rvm-R.C-----DWFCMS
06286 [Cm: 47.4: N: 3.00: Tp: 1.21]
06287 [IAREC: 6.00: SMIN: 27.01: SMAX: 168.09: Ck: 030]
06288 [InterVntTime: 12.00]
06289 \*\*\*\*\*
06290 CONTINUOUS NASHDY -----DtmIn-IDmHYD-----AREAA-QPEARCS-TpeaDate\_hh:mm-----Rvm-R.C-----DWFCMS
06291 [Cm: 53.0: N: 3.00: Tp: 1.29]
06292 [IAREC: 6.00: SMIN: 31.01: SMAX: 606.70: Ck: 030]
06293 [InterVntTime: 12.00]
06294 \*\*\*\*\*
06295 CONTINUOUS NASHDY -----DtmIn-IDmHYD-----AREAA-QPEARCS-TpeaDate\_hh:mm-----Rvm-R.C-----DWFCMS
06296 [Cm: 47.4: N: 3.00: Tp: 1.21]
06297 [IAREC: 6.00: SMIN: 27.01: SMAX: 168.09: Ck: 030]
06298 [InterVntTime: 12.00]
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06481 [Cm 36.7: Nm 3.00: Tm .96]
06482 [IARCC 6.00: SMIN=141.94: SMAX=946.27: SK= .030]
06483 [InterEventTime= 12.00]
06484 #####
06485 1995-C00029 -----DRAIN-ID:HYD-----AREAA-QPEARMS-TpeakDate_hh:mm-----Rvm-R-C-----DWFCMS
06486 ADD HYD + 5.0 02:SOOTH-2 11.61 .121 1995.0603.9:25 200.61 n/a .000
06487 [I/S= 181./ 500./035]
06488 1995-C00030 -----DRAIN-ID:HYD-----AREAA-QPEARMS-TpeakDate_hh:mm-----Rvm-R-C-----DWFCMS
06489 ROUTE CHANNEL -> 5.0 02:25 140.66 1.272 1995.0603.10:05 203.51 n/a .000
06490 [R/S= 5.01 out= .00]
06491 [L/S= 181./ 500./035]
06492 [I/S= 181. 184.]
06493 1995-C00031 -----DRAIN-ID:HYD-----AREAA-QPEARMS-TpeakDate_hh:mm-----Rvm-R-C-----DWFCMS
06494 CONTINUOUS NASHYD 5.0 01:SOOTH-3 7.98 .104 1995.0603.9:20 204.13 4.92 .000
06495 [Cm 42.6: Nm 3.00: Tm .89]
06496 [IARCC 6.00: SMIN=141.94: SMAX=946.27: SK= .030]
06497 [InterEventTime= 12.00]
06498 1995-C00032 -----DRAIN-ID:HYD-----AREAA-QPEARMS-TpeakDate_hh:mm-----Rvm-R-C-----DWFCMS
06499 ADD HYD + 5.0 02:R3 140.66 1.271 1995.0603.10:10 203.51 n/a .000
06500 SIMM + 5.0 02:SOOTH-3 7.98 .104 1995.0603.9:20 204.13 n/a .000
06501 SUMM 5.0 01:26 148.64 1.354 1995.0603.10:05 203.53 n/a .000
06502 1995-C00033 -----DRAIN-ID:HYD-----AREAA-QPEARMS-TpeakDate_hh:mm-----Rvm-R-C-----DWFCMS
06503 SAVE HYD 5.0 01:26 148.64 1.354 1995.0603.10:05 203.53 n/a .000
06504 #####
06505 remark:16-Breakbrook Tributary Upstream of Thunder Road Crossing
06506 1995-C00034 -----DRAIN-ID:HYD-----AREAA-QPEARMS-TpeakDate_hh:mm-----Rvm-R-C-----DWFCMS
06507 ROUTE CHANNEL -> 5.0 02:26 148.64 1.354 1995.0603.10:05 203.53 n/a .000
06508 [R/S= 5.01 out= .00]
06509 [L/S= 181./ 500./035]
06510 [I/S= 181. 184.]
06511 1995-C00035 -----DRAIN-ID:HYD-----AREAA-QPEARMS-TpeakDate_hh:mm-----Rvm-R-C-----DWFCMS
06512 CONTINUOUS NASHYD 5.0 01:SOOTH-4 14.99 .153 1995.0603.9:40 202.02 4.87 .000
06513 [Cm 39.5: Nm 3.00: Tm 1.23]
06514 [IARCC 6.00: SMIN=168.62: SMAX=946.27: SK= .030]
06515 [InterEventTime= 12.00]
06516 1995-C00036 -----DRAIN-ID:HYD-----AREAA-QPEARMS-TpeakDate_hh:mm-----Rvm-R-C-----DWFCMS
06517 ADD HYD + 5.0 02:SOOTH-4 14.99 .153 1995.0603.9:40 202.02 n/a .000
06518 SIMM 5.0 01:Total 163.63 1.495 1995.0603.10:10 203.39 n/a .000
06519 #####
06520 #####
06521 #####
06522 #####
06523 #####
06524 #####
06525 #####
06526 # STORMS
06527 #####
06528 * END OF RUN : 1995
06529 #####
06530 #####
06531 #####
06532 #####
06533 #####
06534 #####
06535 #####
06536 RVM:COMMANDS
06537 1995-C00037 -----DRAIN-ID:HYD-----AREAA-QPEARMS-TpeakDate_hh:mm-----Rvm-R-C-----DWFCMS
06538 START
06539 [TZERO = .00 hrs on 19960401]
06540 [METOUT= 2 (1=Imperial, 2=Metric output)]
06541 [NFORM= 0]
06542 [IARCC 6.00: SMIN=168.62: SMAX=946.27: SK= .030]
06543 #####
06544 # SCHEDULE / INPUT DATA FILE
06545 #####
06546 # Project Name: [THUNDER ROAD] Project Number: [2128]
06547 # Date : 04-28-2021
06548 # Modeller : [J.F.]
06549 # Company : JFSaInc.
06550 # License # : 2549237
06551 #####
06552 #####
06553 #####
06554 # Ottawa International Airport - April list to October 31st
06555 1995-C00038 -----DRAIN-ID:HYD-----AREAA-QPEARMS-TpeakDate_hh:mm-----Rvm-R-C-----DWFCMS
06556 * READ ARE DATA
06557 [Filename = YOM_1967_2007_123 ]
06558 [Start_date = 1996.0401: End_date = 1996.1031]
06559 [Dry 6.min: Length = 4932 hrs: Wetness = 306: DryHrs = 4086: PTOTr = 426.50]
06560 #####
06561 1 hr 2 hrs 3 hrs 6 hrs 12 hrs 24 hrs 36 hrs 48 hrs 72 hrs
06562 18.50 23.55 27.89 31.60 35.25 38.99 42.68 46.42 50.16
06563 18.50 27.10 32.50 38.10 43.80 49.50 55.20 60.90 66.60
06564 19960731 19960731 19960731 19960731 19960731 19960731 19960731 19960731 19960731
06565 #####
06566 Number of rainfall events per following interval time
06567 1 hr 2 hrs 3 hrs 6 hrs 12 hrs 24 hrs 36 hrs 48 hrs 72 hrs
06568 111 97 83 63 48 31 26 19
06569 #####
06570 Number of events with at least the following durations
06571 1 hr 2 hrs 3 hrs 6 hrs 12 hrs 24 hrs 36 hrs 48 hrs 72 hrs
06572 110 63 42 14 1 0 0 0 0
06573 1995-C00039 -----DRAIN-ID:HYD-----AREAA-QPEARMS-TpeakDate_hh:mm-----Rvm-R-C-----DWFCMS
06574 COMPUTE API
06575 [API= 50.00: APIKey = 9000: APIKey = 9956]
06576 [APImax = 63.22: APIAvg = 23.08: APImin = 4.15]
06577 1995-C00040 -----DRAIN-ID:HYD-----AREAA-QPEARMS-TpeakDate_hh:mm-----Rvm-R-C-----DWFCMS
06578 CONTINUOUS NASHYD 5.0 01:SOOTH-1 34.70 .039 1996.0731.20:40 115.53 2.71 .000
06579 [Cm 38.1: Nm 3.00: Tm 1.46]
06580 [IARCC 6.00: SMIN=168.62: SMAX=946.27: SK= .030]
06581 [InterEventTime= 12.00]
06582 1995-C00041 -----DRAIN-ID:HYD-----AREAA-QPEARMS-TpeakDate_hh:mm-----Rvm-R-C-----DWFCMS
06583 CONTINUOUS NASHYD 5.0 01:SOOTH-2 12.44 .045 1996.0731.16:40 116.75 2.74 .000
06584 [Cm 42.6: Nm 3.00: Tm .89]
06585 [IARCC 6.00: SMIN= 91.01: SMAX=606.70: SK= .030]
06586 [InterEventTime= 12.00]
06587 1995-C00042 -----DRAIN-ID:HYD-----AREAA-QPEARMS-TpeakDate_hh:mm-----Rvm-R-C-----DWFCMS
06588 CONTINUOUS NASHYD 5.0 01:HWY-1 2.36 .023 1996.0731.16:35 122.64 2.88 .000
06589 [Cm 47.8: Nm 3.00: Tm 1.29]
06590 [IARCC 6.00: SMIN= 25.21: SMAX=168.09: SK= .030]
06591 [InterEventTime= 12.00]
06592 1995-C00043 -----DRAIN-ID:HYD-----AREAA-QPEARMS-TpeakDate_hh:mm-----Rvm-R-C-----DWFCMS
06593 ADD HYD + 5.0 02:SOOTH-1 34.70 .039 1996.0731.20:40 115.53 n/a .000
06594 SIMM + 5.0 02:HWY-1 2.36 .023 1996.0731.16:35 122.64 n/a .000
06595 SUMM 5.0 01:21 49.51 .086 1996.0731.16:50 116.18 n/a .000
06596 1995-C00044 -----DRAIN-ID:HYD-----AREAA-QPEARMS-TpeakDate_hh:mm-----Rvm-R-C-----DWFCMS
06597 ROUTE CHANNEL -> 5.0 02:21 49.51 .086 1996.0731.16:50 116.18 n/a .000
06598 [R/S= 5.01 out= .00]
06599 [L/S= 478./ 440./035]
06600 [I/S= 478. 440.]
06601 1995-C00045 -----DRAIN-ID:HYD-----AREAA-QPEARMS-TpeakDate_hh:mm-----Rvm-R-C-----DWFCMS
06602 CONTINUOUS NASHYD 5.0 01:HWY-1 4.39 .017 1996.0731.17:00 117.62 2.76 .000
06603 [Cm 40.4: Nm 3.00: Tm 1.21]
06604 [IARCC 6.00: SMIN= 67.24: SMAX=448.24: SK= .030]
06605 [InterEventTime= 12.00]
06606 1995-C00046 -----DRAIN-ID:HYD-----AREAA-QPEARMS-TpeakDate_hh:mm-----Rvm-R-C-----DWFCMS
06607 CONTINUOUS NASHYD 5.0 01:HWY-2 3.61 .013 1996.0731.16:25 116.21 2.72 .000
06608 [Cm 47.8: Nm 3.00: Tm 1.46]
06609 [IARCC 6.00: SMIN=115.26: SMAX=768.40: SK= .030]
06610 [InterEventTime= 12.00]
06611 1995-C00047 -----DRAIN-ID:HYD-----AREAA-QPEARMS-TpeakDate_hh:mm-----Rvm-R-C-----DWFCMS
06612 CONTINUOUS NASHYD 5.0 01:AJA 3.84 .015 1996.0731.16:50 117.36 2.75 .000
06613 [Cm 38.1: Nm 3.00: Tm 1.46]
06614 [IARCC 6.00: SMIN= 73.13: SMAX=487.55: SK= .030]
06615 [InterEventTime= 12.00]
06616 1995-C00048 -----DRAIN-ID:HYD-----AREAA-QPEARMS-TpeakDate_hh:mm-----Rvm-R-C-----DWFCMS
06617 * CONTINUOUS STANDARD 5.0 01:POnd3-In 1.21 .040 1996.0731.15:00 217.27 5.09 .000
06618 [IARCC 6.00: SMIN= 75]
06619 [XIMP= 44:TIMP= 75]
06620 [Horizon parameters: Fw = 76.20:Frc = 13.20:DCAY=4.14: P=****]
06621 [Previous area: IARCC= 4.67:SLIP=2.50:LDIP= 10.0:MDP= 250:SDC= .0]
06622 [Impervious area: IARCC= 1.57:SLIP=1.50:LDIP= 50:MDP= 0:10:SDC= .0]
06623 [IARCC= 12.00]
06624 1995-C00049 -----DRAIN-ID:HYD-----AREAA-QPEARMS-TpeakDate_hh:mm-----Rvm-R-C-----DWFCMS
06625 ROUTE RESERVOIR -> 5.0 02:POnd3-In 1.21 .040 1996.0731.15:00 217.27 n/a .000
06626 out <= 5.0 02:POnd3-Out 1.21 .040 1996.0731.18:05 217.25 n/a .000
06627 overflow <= 5.0 03:POnd3-Over .00 .000 1996.0402.0:00 .00 n/a .000
06628 [Mto:to:sd= 2984E-01 n3, to:ov:Vol= 0.000E+00 n3, N=ov= 0, to:ov:ov= 0_hrs]
06629 1995-C00050 -----DRAIN-ID:HYD-----AREAA-QPEARMS-TpeakDate_hh:mm-----Rvm-R-C-----DWFCMS
06630 ADD HYD + 5.0 02:POnd3-Over .00 .000 1996.0402.0:00 .00 n/a .000
06631 SIMM 5.0 02:POnd3-Out 1.21 .040 1996.0731.18:05 217.25 n/a .000
06632 SUMM 5.0 01:POnd3-Dic 1.21 .040 1996.0731.18:05 217.25 n/a .000
06633 1995-C00051 -----DRAIN-ID:HYD-----AREAA-QPEARMS-TpeakDate_hh:mm-----Rvm-R-C-----DWFCMS
06634 ROUTE CHANNEL -> 5.0 02:POnd3-Dic 1.21 .040 1996.0731.18:05 217.25 n/a .000
06635 [R/S= 5.01 out= .00]
06636 [I/S= 500./ 140./035]
06637 [I/S= 500. 140.]
06638 1995-C00052 -----DRAIN-ID:HYD-----AREAA-QPEARMS-TpeakDate_hh:mm-----Rvm-R-C-----DWFCMS
06639 CONTINUOUS NASHYD 5.0 01:AJA 5.71 .031 1996.0731.16:20 117.36 2.75 .000
06640 [Cm 38.1: Nm 3.00: Tm .89]
06641 [IARCC 6.00: SMIN= 73.13: SMAX=487.55: SK= .030]
06642 [InterEventTime= 12.00]
06643 1995-C00053 -----DRAIN-ID:HYD-----AREAA-QPEARMS-TpeakDate_hh:mm-----Rvm-R-C-----DWFCMS
06644 ADD HYD + 5.0 02:SOOTH-1 34.70 .039 1996.0731.20:40 115.53 n/a .000
06645 SIMM + 5.0 02:SOOTH-2 3.61 .013 1996.0731.16:25 116.21 n/a .000
06646 [Cm 47.8: Nm 3.00: Tm 1.46]
06647 [IARCC 6.00: SMIN= 73.13: SMAX=487.55: SK= .030]
06648 [InterEventTime= 12.00]
06649 1995-C00054 -----DRAIN-ID:HYD-----AREAA-QPEARMS-TpeakDate_hh:mm-----Rvm-R-C-----DWFCMS
06650 CONTINUOUS NASHYD 5.0 01:HWY-1 2.36 .023 1996.0731.16:35 122.64 2.88 .000
06651 [Cm 47.8: Nm 3.00: Tm 1.46]
06652 [IARCC 6.00: SMIN= 25.21: SMAX=168.09: SK= .030]
06653 [InterEventTime= 12.00]
06654 1995-C00055 -----DRAIN-ID:HYD-----AREAA-QPEARMS-TpeakDate_hh:mm-----Rvm-R-C-----DWFCMS
06655 CONTINUOUS NASHYD 5.0 01:AJA 3.84 .015 1996.0731.16:50 117.36 2.75 .000
06656 [Cm 36.1: Nm 3.00: Tm 1.63]
06657 [IARCC 6.00: SMIN= 181.00: SMAX=946.27: SK= .030]
06658 [InterEventTime= 12.00]
06659 1995-C00056 -----DRAIN-ID:HYD-----AREAA-QPEARMS-TpeakDate_hh:mm-----Rvm-R-C-----DWFCMS
06660 CONTINUOUS STANDARD 5.0 01:POnd3-In 1.21 .040 1996.0731.15:00 217.27 5.09 .000
06661 [IARCC 6.00: SMIN= 75]
06662 [XIMP= 44:TIMP= 75]

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06841 [Horton parameters: Fw= 76.20;Pc= 13.20;DCAV=4.14; P=\*\*\*\*]
06842 [Previous area: IArea= 4.67;SLP=2.00;LWD= 50.0;MHD= 250;ISCP= .0]
06843 [Impervious area: IArea= 1.57;SLP=2.50;LWD= 50.0;MHD= 250;ISCP= .0]
06844 [IARCLimp= 12.00; IARCRimp= 12.00]
06845 19197 COU011 -----DtmIn-IDmHYD-----AREHA-QPEARms-TpeakDate\_hh:mm-----RvM-R-C-----DWPFms
06846 ROUTE RESEVOIR -> 5.0 02;Pond3-In 1.21 .007 1997.0622 3.30 167.28 n/a .000
06847 out <= 5.0 02;Pond3-Out 1.21 .003 1997.0622 4.10 167.28 n/a .000
06848 overflow <= 5.0 02;Pond3-Over 0.00 .000 1997.0401 0.00 0.00 n/a .000
06849 [Mdtot=4.765E-01 m3, TotVol=Vol.0000E+00 m3, N-ov=0, 0, TotDur=0v=0 hrs]
06850 ADD HYD -----DtmIn-IDmHYD-----AREHA-QPEARms-TpeakDate\_hh:mm-----RvM-R-C-----DWPFms
06851 5.0 02;Pond3-Over 0.00 .000 1997.0401 0.00 0.00 n/a .000
06852 [L/S= 389.7 / 350 / 0.95]
06853 SIM= 5.0 02;Pond3-Dilt 1.21 .003 1997.0622 4.10 167.28 n/a .000
06854 ROUTE CHANNEL -----DtmIn-IDmHYD-----AREHA-QPEARms-TpeakDate\_hh:mm-----RvM-R-C-----DWPFms
06855 [RDY= 5.00] out<= 5.0 02;A1AC-R 1.21 .003 1997.0503 17.05 167.28 n/a .000
06856 [L/S= 389.7 / 350 / 0.95]
06857 [Vmax= .074;Dmax= .038]
06858 19197 COU016 -----DtmIn-IDmHYD-----AREHA-QPEARms-TpeakDate\_hh:mm-----RvM-R-C-----DWPFms
06859 CONTINUOUS NASHDY -----DtmIn-IDmHYD-----AREHA-QPEARms-TpeakDate\_hh:mm-----RvM-R-C-----DWPFms
06860 [Cm= 58.5; N= 3.00; Tm= .89]
06861 [IARc= 6.00; SMIN= 73.13; SMAX= 487.55; SK= .030]
06862 [InterEventTime= 12.00]
06863 19197 COU017 -----DtmIn-IDmHYD-----AREHA-QPEARms-TpeakDate\_hh:mm-----RvM-R-C-----DWPFms
06864 ADD HYD -----DtmIn-IDmHYD-----AREHA-QPEARms-TpeakDate\_hh:mm-----RvM-R-C-----DWPFms
06865 5.0 02;INT-1 4.39 .005 1997.0503 15.35 96.09 n/a .000
06866 5.0 02;INT-2 5.61 .003 1997.0622 4.40 95.45 n/a .000
06867 5.0 02;INT-3 5.71 .008 1997.0622 4.40 95.97 n/a .000
06868 5.0 02;A1A 3.94 .004 1997.0503 15.30 95.97 n/a .000
06869 5.0 02;A1C-R 1.21 .003 1997.0622 4.10 167.28 n/a .000
06870 SIM= 5.0 02;INT-1 4.39 .005 1997.0503 15.30 96.09 n/a .000
06871 5.0 02;INT-2 5.61 .003 1997.0622 4.40 95.45 n/a .000
06872 5.0 02;INT-3 5.71 .008 1997.0622 4.40 95.97 n/a .000
06873 ROUTE CHANNEL -> 5.0 02;A2 68.26 .046 1997.0503 15.30 96.82 n/a .000
06874 [RDY= 5.00] out<= 5.0 02;A2 68.26 .046 1997.0503 15.30 96.82 n/a .000
06875 [L/S= 389.7 / 350 / 0.95]
06876 [Vmax= .260;Dmax= .068]
06877 19197 COU018 -----DtmIn-IDmHYD-----AREHA-QPEARms-TpeakDate\_hh:mm-----RvM-R-C-----DWPFms
06878 CONTINUOUS NASHDY 5.0 01;A1A 21.43 .010 1997.0503 15.40 95.08 286 .000
06879 [Cm= 31.1; N= 3.00; Tm= 1.68]
06880 [IARc= 6.00; SMIN= 191.09; SMAX= \*\*\*\*; SK= .030]
06881 [InterEventTime= 12.00]
06882 19197 COU019 -----DtmIn-IDmHYD-----AREHA-QPEARms-TpeakDate\_hh:mm-----RvM-R-C-----DWPFms
06883 CONTINUOUS NASHDY 5.0 01;Pond3-In 10.00 .135 1997.0622 4.40 101.73 306 .000
06884 [XIMP= 38;TIMP= 74]
06885 [Horton parameters: Fw= 76.20;Pc= 13.20;DCAV=4.14; P=\*\*\*\*]
06886 [Previous area: IArea= 4.67;SLP=2.00;LWD= 50.0;MHD= 250;ISCP= .0]
06887 [Impervious area: IArea= 1.57;SLP=2.50;LWD= 50.0;MHD= 250;ISCP= .0]
06888 [IARCLimp= 12.00; IARCRimp= 12.00]
06889 19197 COU021 -----DtmIn-IDmHYD-----AREHA-QPEARms-TpeakDate\_hh:mm-----RvM-R-C-----DWPFms
06890 ROUTE RESEVOIR -> 5.0 02;Pond3-In 10.00 .135 1997.0622 4.40 101.73 n/a .000
06891 out <= 5.0 02;Pond3-Out 10.00 .021 1997.0622 4.25 101.73 n/a .000
06892 overflow <= 5.0 03;Pond3-Over 0.00 .000 1997.0401 0.00 0.00 n/a .000
06893 [Mdtot=4.745E-01 m3, TotVol=Vol.0000E+00 m3, N-ov=0, 0, TotDur=0v=0 hrs]
06894 19197 COU022 -----DtmIn-IDmHYD-----AREHA-QPEARms-TpeakDate\_hh:mm-----RvM-R-C-----DWPFms
06895 CONTINUOUS NASHDY -----DtmIn-IDmHYD-----AREHA-QPEARms-TpeakDate\_hh:mm-----RvM-R-C-----DWPFms
06896 [Cm= 64.1; N= 3.00; Tm= 1.12]
06897 [IARc= 6.00; SMIN= 323.73; SK= .030]
06898 [InterEventTime= 12.00]
06899 19197 COU023 -----DtmIn-IDmHYD-----AREHA-QPEARms-TpeakDate\_hh:mm-----RvM-R-C-----DWPFms
06900 ADD HYD -----DtmIn-IDmHYD-----AREHA-QPEARms-TpeakDate\_hh:mm-----RvM-R-C-----DWPFms
06901 5.0 02;A1A 21.43 .010 1997.0503 15.40 95.08 n/a .000
06902 5.0 02;A1C 9.14 .012 1997.0622 4.10 167.28 n/a .000
06903 5.0 02;Pond3-Over 10.00 .000 1997.0401 0.00 0.00 n/a .000
06904 5.0 02;Pond3-Out 10.00 .021 1997.0622 4.25 101.73 n/a .000
06905 SIM= 5.0 01;A 108.84 .089 1997.0503 15.30 96.82 n/a .000
06906 19197 COU024 -----DtmIn-IDmHYD-----AREHA-QPEARms-TpeakDate\_hh:mm-----RvM-R-C-----DWPFms
06907 ROUTE CHANNEL -----DtmIn-IDmHYD-----AREHA-QPEARms-TpeakDate\_hh:mm-----RvM-R-C-----DWPFms
06908 [RDY= 5.00] out<= 5.0 01;A3 108.84 .089 1997.0503 15.50 96.82 n/a .000
06909 [L/S= 396.7 / 350 / 0.95]
06910 [Vmax= .308;Dmax= .098]
06911 19197 COU025 -----DtmIn-IDmHYD-----AREHA-QPEARms-TpeakDate\_hh:mm-----RvM-R-C-----DWPFms
06912 CONTINUOUS NASHDY 5.0 01;Pond3-In 20.21 .010 1997.0503 15.25 95.05 286 .000
06913 [Cm= 35.5; N= 3.00; Tm= 1.40]
06914 [IARc= 6.00; SMIN= 204.20; SMAX= \*\*\*\*; SK= .030]
06915 [InterEventTime= 12.00]
06916 19197 COU026 -----DtmIn-IDmHYD-----AREHA-QPEARms-TpeakDate\_hh:mm-----RvM-R-C-----DWPFms
06917 ADD HYD -----DtmIn-IDmHYD-----AREHA-QPEARms-TpeakDate\_hh:mm-----RvM-R-C-----DWPFms
06918 5.0 02;INT-1 20.21 .010 1997.0503 15.25 95.05 n/a .000
06919 5.0 02;INT-2 129.05 .097 1997.0503 15.45 96.82 n/a .000
06920 19197 COU027 -----DtmIn-IDmHYD-----AREHA-QPEARms-TpeakDate\_hh:mm-----RvM-R-C-----DWPFms
06921 ROUTE CHANNEL -> 5.0 02;A4 129.05 .097 1997.0503 15.45 96.82 n/a .000
06922 [RDY= 5.00] out<= 5.0 02;A4 129.05 .096 1997.0503 16.00 96.82 n/a .000
06923 [L/S= 482.7 / 410 / 0.95]
06924 [Vmax= .369;Dmax= .141]
06925 19197 COU028 -----DtmIn-IDmHYD-----AREHA-QPEARms-TpeakDate\_hh:mm-----RvM-R-C-----DWPFms
06926 CONTINUOUS NASHDY 5.0 01;SOUTH-2 11.61 .007 1997.0622 4.45 95.08 286 .000
06927 [Cm= 36.7; N= 3.00; Tm= .94]
06928 [IARc= 6.00; SMIN= 191.09; SMAX= \*\*\*\*; SK= .030]
06929 [InterEventTime= 12.00]
06930 19197 COU029 -----DtmIn-IDmHYD-----AREHA-QPEARms-TpeakDate\_hh:mm-----RvM-R-C-----DWPFms
06931 ADD HYD -----DtmIn-IDmHYD-----AREHA-QPEARms-TpeakDate\_hh:mm-----RvM-R-C-----DWPFms
06932 5.0 02;A1A 129.05 .096 1997.0503 16.00 96.82 n/a .000
06933 5.0 02;INT-2 11.61 .007 1997.0622 4.45 95.08 n/a .000
06934 19197 COU030 -----DtmIn-IDmHYD-----AREHA-QPEARms-TpeakDate\_hh:mm-----RvM-R-C-----DWPFms
06935 ROUTE CHANNEL -----DtmIn-IDmHYD-----AREHA-QPEARms-TpeakDate\_hh:mm-----RvM-R-C-----DWPFms
06936 [RDY= 5.00] out<= 5.0 01;A5 140.66 .100 1997.0503 16.00 96.49 n/a .000
06937 [L/S= 500.0 / 440 / 0.95]
06938 [Vmax= .334;Dmax= .147]
06939 19197 COU031 -----DtmIn-IDmHYD-----AREHA-QPEARms-TpeakDate\_hh:mm-----RvM-R-C-----DWPFms
06940 CONTINUOUS NASHDY -----DtmIn-IDmHYD-----AREHA-QPEARms-TpeakDate\_hh:mm-----RvM-R-C-----DWPFms
06941 [Cm= 42.6; N= 3.00; Tm= .89]
06942 [IARc= 6.00; SMIN= 94.67; SMAX= \*\*\*\*; SK= .030]
06943 [InterEventTime= 12.00]
06944 19197 COU032 -----DtmIn-IDmHYD-----AREHA-QPEARms-TpeakDate\_hh:mm-----RvM-R-C-----DWPFms
06945 ADD HYD -----DtmIn-IDmHYD-----AREHA-QPEARms-TpeakDate\_hh:mm-----RvM-R-C-----DWPFms
06946 5.0 02;SOUTH-1 140.66 .100 1997.0503 16.00 96.49 n/a .000
06947 5.0 02;SOUTH-3 7.98 .007 1997.0622 4.40 95.27 n/a .000
06948 SIM= 148.64 .105 1997.0503 16.00 96.43 n/a .000
06949 19197 COU033 -----DtmIn-IDmHYD-----AREHA-QPEARms-TpeakDate\_hh:mm-----RvM-R-C-----DWPFms
06950 SAVE HYD -----DtmIn-IDmHYD-----AREHA-QPEARms-TpeakDate\_hh:mm-----RvM-R-C-----DWPFms
06951 [L/S= 369.199]
06952 19197 COU034 -----DtmIn-IDmHYD-----AREHA-QPEARms-TpeakDate\_hh:mm-----RvM-R-C-----DWPFms
06953 ROUTE CHANNEL -> 5.0 02;A6 148.64 .104 1997.0503 16.05 96.43 n/a .000
06954 [RDY= 5.00] out<= 5.0 02;A6 148.64 .104 1997.0503 16.05 96.43 n/a .000
06955 [L/S= 323.7 / 440 / 0.95]
06956 [Vmax= .390;Dmax= .165]
06957 19197 COU035 -----DtmIn-IDmHYD-----AREHA-QPEARms-TpeakDate\_hh:mm-----RvM-R-C-----DWPFms
06958 CONTINUOUS NASHDY 5.0 01;SOUTH-4 14.99 .009 1997.0503 15.20 95.16 287 .000
06959 [Cm= 35.5; N= 3.00; Tm= 1.21]
06960 [IARc= 6.00; SMIN= 161.00; SMAX= \*\*\*\*; SK= .030]
06961 [InterEventTime= 12.00]
06962 19197 COU036 -----DtmIn-IDmHYD-----AREHA-QPEARms-TpeakDate\_hh:mm-----RvM-R-C-----DWPFms
06963 ADD HYD -----DtmIn-IDmHYD-----AREHA-QPEARms-TpeakDate\_hh:mm-----RvM-R-C-----DWPFms
06964 5.0 02;SOUTH-4 14.99 .009 1997.0503 15.20 95.16 n/a .000
06965 SIM= 163.49 .112 1997.0503 16.05 96.31 n/a .000
06966 #####
06967 #####
06968 #####
06969 #####
06970 #####
06971 #####
06972 #####
06973 #####
06974 \*\* END OF RUN : 1997
06975
06976
06977
06978
06979
06980
06981
06982
06983
06984 START [L,S]
06985 [TREQ= 0.00 hrs on 19980401]
06986 [MOUT= 2.0 (Imperial, 2.metric output)]
06987 [NTRIME= 0 ]
06988 [NIN= 1998 ]
06989 #####
06990 #####
06991 #####
06992 #####
06993 #####
06994 # Modeler [L,S]
06995 # Company # JFSAINC
06996 # License # : 2549237
06997 #####
06998 #####
06999 #####
07000 # Ottawa International Airport - Aerial lat to October 31st
07001 19197 COU002 -----DtmIn-IDmHYD-----AREHA-QPEARms-TpeakDate\_hh:mm-----RvM-R-C-----DWPFms
07002 # READ AREA DATA
07003 [Filename= Y06\_1967\_207.123 ]
07004 [Start\_date= 1998.0401;End\_date= 1998.1031]
07005 [DTX= 60;Unit= Length;Units= Metres; Dst= 281;DvYhrs= 4773; PTD= 440.30 ]
07006 # Maximum average rainfall intensities over
07007 1 hr 2 hrs 3 hrs 6 hrs 12 hrs 24 hrs 36 hrs 48 hrs 72 hrs
07008 15.80 8.90 7.60 4.00 2.84 1.82 1.27 .95 .76 mm/hr
07009 15.80 17.80 22.80 24.00 30.50 43.60 45.80 45.80 54.60
07010 1918016 1998027 1998027 1998027 1998027 1998028 1998028 1998015 date
07011 # Number of rainfall events per following interval time
07012 1 hr 2 hrs 3 hrs 6 hrs 12 hrs 24 hrs 36 hrs 48 hrs 72 hrs
07013 1.26 1.04 1.35 .78 6.33 42 37 32 21
07014 # Number of events with at least the following durations
07015 3 hr 2 hrs 3 hrs 6 hrs 12 hrs 24 hrs 36 hrs 48 hrs 72 hrs
07016 1.25 .64 .43 .8 1 0 0 0 0
07017 19197 COU003 -----DtmIn-IDmHYD-----AREHA-QPEARms-TpeakDate\_hh:mm-----RvM-R-C-----DWPFms
07018 COMPUTE API
07019 [APIIn= 50.00; APIXdy= 9000; APIDxt= .9956]
07020 [APIOut= 57.22; APIVdy= 31.00; APIVdxt= 5.90]
07021 19198 COU004 -----DtmIn-IDmHYD-----AREHA-QPEARms-TpeakDate\_hh:mm-----RvM-R-C-----DWPFms
07022 [Horton parameters: Fw= 76.20;Pc= 13.20;DCAV=4.14; P=\*\*\*\*]
07023 [Previous area: IArea= 4.67;SLP=2.00;LWD= 50.0;MHD= 250;ISCP= .0]
07024 [Impervious area: IArea= 1.57;SLP=2.50;LWD= 50.0;MHD= 250;ISCP= .0]
07025 [IARCLimp= 12.00; IARCRimp= 12.00]
07026 19198 COU005 -----DtmIn-IDmHYD-----AREHA-QPEARms-TpeakDate\_hh:mm-----RvM-R-C-----DWPFms
07027 CONTINUOUS NASHDY -----DtmIn-IDmHYD-----AREHA-QPEARms-TpeakDate\_hh:mm-----RvM-R-C-----DWPFms
07028 [Cm= 53.0; N= 3.00; Tm= 1.29]
07029 [IARc= 6.00; SMIN= 91.01; SMAX= 606.70; SK= .030]
07030 19198 COU006 -----DtmIn-IDmHYD-----AREHA-QPEARms-TpeakDate\_hh:mm-----RvM-R-C-----DWPFms
07031 CONTINUOUS NASHDY -----DtmIn-IDmHYD-----AREHA-QPEARms-TpeakDate\_hh:mm-----RvM-R-C-----DWPFms
07032 [Cm= 81.7; N= 3.00; Tm= 1.21]
07033 [IARc= 6.00; SMIN= 25.21; SMAX= 168.09; SK= .030]
07034 19198 COU007 -----DtmIn-IDmHYD-----AREHA-QPEARms-TpeakDate\_hh:mm-----RvM-R-C-----DWPFms
07035 ADD HYD -----DtmIn-IDmHYD-----AREHA-QPEARms-TpeakDate\_hh:mm-----RvM-R-C-----DWPFms
07036 5.0 02;INT-1 4.39 .005 1997.0503 15.35 96.09 n/a .000
07037 5.0 02;INT-2 5.61 .003 1997.0622 4.40 95.45 n/a .000
07038 5.0 02;INT-3 5.71 .008 1997.0622 4.40 95.97 n/a .000
07039 5.0 02;A1A 3.94 .004 1997.0503 15.30 95.97 n/a .000
07040 5.0 02;A1C-R 1.21 .003 1997.0622 4.10 167.28 n/a .000
07041 SIM= 5.0 02;INT-1 4.39 .005 1997.0503 15.30 96.09 n/a .000
07042 5.0 02;INT-2 5.61 .003 1997.0622 4.40 95.45 n/a .000
07043 5.0 02;INT-3 5.71 .008 1997.0622 4.40 95.97 n/a .000
07044 [L/S= 478.7 / 440 / 0.95]
07045 [Vmax= .338;Dmax= .134]
07046 19198 COU008 -----DtmIn-IDmHYD-----AREHA-QPEARms-TpeakDate\_hh:mm-----RvM-R-C-----DWPFms
07047 CONTINUOUS NASHDY -----DtmIn-IDmHYD-----AREHA-QPEARms-TpeakDate\_hh:mm-----RvM-R-C-----DWPFms
07048 [Cm= 60.4; N= 3.00; Tm= 1.66]
07049 [IARc= 6.00; SMIN= 67.24; SMAX= 448.24; SK= .030]
07050 [InterEventTime= 12.00]
07051 19198 COU009 -----DtmIn-IDmHYD-----AREHA-QPEARms-TpeakDate\_hh:mm-----RvM-R-C-----DWPFms
07052 CONTINUOUS NASHDY -----DtmIn-IDmHYD-----AREHA-QPEARms-TpeakDate\_hh:mm-----RvM-R-C-----DWPFms
07053 [Cm= 47.4; N= 3.00; Tm= .95]
07054 [IARc= 6.00; SMIN= 115.26; SMAX= 768.40; SK= .030]
07055 [InterEventTime= 12.00]
07056 19198 COU010 -----DtmIn-IDmHYD-----AREHA-QPEARms-TpeakDate\_hh:mm-----RvM-R-C-----DWPFms
07057 CONTINUOUS NASHDY -----DtmIn-IDmHYD-----AREHA-QPEARms-TpeakDate\_hh:mm-----RvM-R-C-----DWPFms
07058 [Cm= 58.4; N= 3.00; Tm= 1.46]
07059 [IARc= 6.00; SMIN= 73.13; SMAX= 487.55; SK= .030]
07060 [InterEventTime= 12.00]
07061 19198 COU011 -----DtmIn-IDmHYD-----AREHA-QPEARms-TpeakDate\_hh:mm-----RvM-R-C-----DWPFms
07062 CONTINUOUS NASHDY -----DtmIn-IDmHYD-----AREHA-QPEARms-TpeakDate\_hh:mm-----RvM-R-C-----DWPFms
07063 [Cm= 34.9; N= 3.00; Tm= 1.21]
07064 [IARc= 6.00; SMIN= 191.09; SMAX= \*\*\*\*; SK= .030]
07065 [InterEventTime= 12.00]
07066 19198 COU012 -----DtmIn-IDmHYD-----AREHA-QPEARms-TpeakDate\_hh:mm-----RvM-R-C-----DWPFms
07067 CONTINUOUS NASHDY -----DtmIn-IDmHYD-----AREHA-QPEARms-TpeakDate\_hh:mm-----RvM-R-C-----DWPFms
07068 [Cm= 64.1; N= 3.00; Tm= 1.12]
07069 [IARc= 6.00; SMIN= 323.73; SK= .030]
07070 [InterEventTime= 12.00]
07071 19198 COU013 -----DtmIn-IDmHYD-----AREHA-QPEARms-TpeakDate\_hh:mm-----RvM-R-C-----DWPFms
07072 ROUTE RESEVOIR -> 5.0 02;Pond3-In 1.21 .004 1998.0627 1.00 218.65 n/a .000
07073 out <= 5.0 02;Pond3-Out 1.21 .003 1998.0627 3.05 218.63 n/a .000
07074 overflow <= 5.0 03;Pond3-Over 0.00 .000 1998.0404 0.00 0.00 n/a .000
07075 [Mdtot=4.745E-01 m3, TotVol=Vol.0000E+00 m3, N-ov=0, 0, TotDur=0v=0 hrs]
07076 19198 COU014 -----DtmIn-IDmHYD-----AREHA-QPEARms-TpeakDate\_hh:mm-----RvM-R-C-----DWPFms
07077 ADD HYD -----DtmIn-IDmHYD-----AREHA-QPEARms-TpeakDate\_hh:mm-----RvM-R-C-----DWPFms
07078 5.0 02;Pond3-Over 0.00 .000 1998.0404 0.00 0.00 n/a .000
07079 5.0 02;Pond3-Out 1.21 .003 1998.0627 3.05 218.63 n/a .000
07080 SIM= 5.0 01;Pond3-Dilt 1.21 .003 1998.0627 3.05 218.63 n/a .000
07081 19198 COU015 -----DtmIn-IDmHYD-----AREHA-QPEARms-TpeakDate\_hh:mm-----RvM-R-C-----DWPFms
07082 ROUTE CHANNEL -> 5.0 02;Pond3-Out 1.21 .003 1998.0627 3.05 218.63 n/a .000
07083 [RDY= 5.00] out<= 5.0 01;A3C-R 1.21 .003 1998.0627 3.05 218.63 n/a .000
07084 [L/S= 500.0 / 140 / 0.95]
07085 [Vmax= .075;Dmax= .038]
07086 19198 COU016 -----DtmIn-IDmHYD-----AREHA-QPEARms-TpeakDate\_hh:mm-----RvM-R-C-----DWPFms
07087 CONTINUOUS NASHDY -----DtmIn-IDmHYD-----AREHA-QPEARms-TpeakDate\_hh:mm-----RvM-R-C-----DWPFms
07088 [Cm= 58.5; N= 3.00; Tm= .89]
07089 [IARc= 6.00; SMIN= 73.13; SMAX= 487.55; SK= .030]
07090 [InterEventTime= 12.00]
07091 19198 COU017 -----DtmIn-IDmHYD-----AREHA-QPEARms-TpeakDate\_hh:mm-----RvM-R-C-----DWPFms
07092 ADD HYD -----DtmIn-IDmHYD-----AREHA-QPEARms-TpeakDate\_hh:mm-----RvM-R-C-----DWPFms
07093 5.0 02;INT-1 4.39 .005 1997.0503 15.35 96.09 n/a .000
07094 5.0 02;INT-2 5.61 .003 1997.0622 4.40 95.45 n/a .000
07095 5.0 02;INT-3 5.71 .008 1997.0622 4.40 95.97 n/a .000
07096 5.0 02;A1A 3.94 .004 1997.0503 15.30 95.97 n/a .000
07097 5.0 02;A1C-R 1.21 .003 1997.0622 4.10 167.28 n/a .000
07098 SIM= 5.0 02;INT-1 4.39 .005 1997.0503 15.30 96.09 n/a .000
07099 5.0 02;INT-2 5.61 .003 1997.0622 4.40 95.45 n/a .000
07100 5.0 02;INT-3 5.71 .008 1997.0622 4.40 95.97 n/a .000
07101 [L/S= 396.7 / 350 / 0.95]
07102 [Vmax= .308;Dmax= .098]
07103 19198 COU018 -----DtmIn-IDmHYD-----AREHA-QPEARms-TpeakDate\_hh:mm-----RvM-R-C-----DWPFms
07104 CONTINUOUS NASHDY 5.0 01;A1A 21.43 .010 1997.0503 15.40 95.08 286 .000
07105 [Cm= 31.1; N= 3.00; Tm= 1.68]
07106 [IARc= 6.00; SMIN= 191.09; SMAX= \*\*\*\*; SK= .030]
07107 [InterEventTime= 12.00]
07108 19198 COU019 -----DtmIn-IDmHYD-----AREHA-QPEARms-TpeakDate\_hh:mm-----RvM-R-C-----DWPFms
07109 CONTINUOUS NASHDY -----DtmIn-IDmHYD-----AREHA-QPEARms-TpeakDate\_hh:mm-----RvM-R-C-----DWPFms
07110 [Cm= 35.5; N= 3.00; Tm= 1.40]
07111 [IARc= 6.00; SMIN= 204.20; SMAX= \*\*\*\*; SK= .030]
07112 [InterEventTime= 12.00]
07113 19198 COU020 -----DtmIn-IDmHYD-----AREHA-QPEARms-TpeakDate\_hh:mm-----RvM-R-C-----DWPFms
07114 ROUTE RESEVOIR -> 5.0 02;Pond3-In 10.00 .135 1998.0627 1.00 188.88 n/a .000
07115 out <= 5.0 02;Pond3-Out 10.00 .023 1998.0627 3.25 188.88 n/a .000
07116 overflow <= 5.0 03;Pond3-Over 0.00 .000 1998.0404 0.00 0.00 n/a .000
07117 [Mdtot=4.765E-01 m3, TotVol=Vol.0000E+00 m3, N-ov=0, 0, TotDur=0v=0 hrs]
07118 19198 COU021 -----DtmIn-IDmHYD-----AREHA-QPEARms-TpeakDate\_hh:mm-----RvM-R-C-----DWPFms
07119 CONTINUOUS NASHDY -----DtmIn-IDmHYD-----AREHA-QPEARms-TpeakDate\_hh:mm-----RvM-R-C-----DWPFms
07120 [Cm= 64.1; N= 3.00; Tm= 1.12]
07121 [IARc= 6.00; SMIN= 323.73; SK= .030]
07122 [InterEventTime= 12.00]
07123 19198 COU022 -----DtmIn-IDmHYD-----AREHA-QPEARms-TpeakDate\_hh:mm-----RvM-R-C-----DWPFms
07124 ADD HYD -----DtmIn-IDmHYD-----AREHA-QPEARms-TpeakDate\_hh:mm-----RvM-R-C-----DWPFms
07125 5.0 02;INT-1 20.21 .010 1997.0503 15.25 95.05 n/a .000
07126 5.0 02;INT-2 129.05 .097 1997.0503 15.45 96.82 n/a .000
07127 5.0 02;Pond3-Over 10.00 .000 1997.0401 0.00 0.00 n/a .000
07128 5.0 02;Pond3-Out 10.00 .021 1997.0622 4.25 101.73 n/a .000
07129 SIM= 5.0 01;A 108.84 .089 1997.0503 15.30 96.82 n/a .000
07130 19198 COU023 -----DtmIn-IDmHYD-----AREHA-QPEARms-TpeakDate\_hh:mm-----RvM-R-C-----DWPFms
07131 ROUTE CHANNEL -----DtmIn-IDmHYD-----AREHA-QPEARms-TpeakDate\_hh:mm-----RvM-R-C-----DWPFms
07132 [RDY= 5.00] out<= 5.0 01;A3 108.84 .089 1997.0503 15.50 96.82 n/a .000
07133 [L/S= 396.7 / 350 / 0.95]
07134 [Vmax= .369;Dmax= .141]
07135 19198 COU024 -----DtmIn-IDmHYD-----AREHA-QPEARms-TpeakDate\_hh:mm-----RvM-R-C-----DWPFms
07136 CONTINUOUS NASHDY -----DtmIn-IDmHYD-----AREHA-QPEARms-TpeakDate\_hh:mm-----RvM-R-C-----DWPFms
07137 [Cm= 64.1; N= 3.00; Tm= 1.12]
07138 [IARc= 6.00; SMIN= 323.73; SK= .030]
07139 [InterEventTime= 12.00]
07140 19198 COU025 -----DtmIn-IDmHYD-----AREHA-QPEARms-TpeakDate\_hh:mm-----RvM-R-C-----DWPFms
07141 CONTINUOUS NASHDY -----DtmIn-IDmHYD-----AREHA-QPEARms-TpeakDate\_hh:mm-----RvM-R-C-----DWPFms
07142 [Cm= 35.5; N= 3.00; Tm= 1.40]
07143 [IARc= 6.00; SMIN= 204.20; SMAX= \*\*\*\*; SK= .030]
07144 [InterEventTime= 12.00]
07145 19198 COU026 -----DtmIn-IDmHYD-----AREHA-QPEARms-TpeakDate\_hh:mm-----RvM-R-C-----DWPFms
07146 ADD HYD -----DtmIn-IDmHYD-----AREHA-QPEARms-TpeakDate\_hh:mm-----RvM-R-C-----DWPFms
07147 5.0 02;SOUTH-1 140.66 .100 1997.0503 16.00 96.49 n/a .000
07148 5.0 02;SOUTH-3 7.98 .007 1997.0622 4.40 95.27 n/a .000
07149 SIM= 148

07201 ROUTE CHANNEL -> 5.0 02:15 140.66 .302 1999.0906.10:50 156.31 n/a .000
07202 [RDY= 5.0] out< 5.0 02:15 140.66 .301 1999.0906.10:55 156.31 n/a .000
07203 [L/S/N= 181./ 500./035]
07204 [Vmax= 484/Dmax= 239]
07205 RUN COMMANDS
07206 R1999-C0001-----Dmain-ID-NHYD-----AREHA-OPERAcs-TpeakDate\_hh:mm-----Rvm-R-C-----DWfcs
07207 [START DATE= 1999.0401; END DATE= 1999.1031]
07208 [TZRO= .00 hrs on 19990401]
07209 [METRO= 2 (1=Imperial, 2=metric output)]
07210 [MSTORM= 0]
07211 [MWIN= 1999]
07212 \*\*\*\*\*
07213 # SWHYDRO / INPUT DATA FILE
07214 # \*\*\*\*\*
07215 # Project Name: [THUNDER ROAD] Project Number: [2128]
07216 # Date : 04-28-2021
07217 # Modeller : [J.F. Sabourin]
07218 # Company : JFSaInc.
07219 # License # : 2549223
07220 \*\*\*\*\*
07221 # \*\*\*\*\*
07222 \*\*\*\*\*
07223 # Ottawa International Airport - April list to October 31st
07224 R1999-C0002-----Dmain-ID-NHYD-----AREHA-OPERAcs-TpeakDate\_hh:mm-----Rvm-R-C-----DWfcs
07225 # READ ARE DATA
07226 [FILENAME= Y08\_1967\_2007\_123 ]
07227 [START DATE= 1999.0401; END DATE= 1999.1031]
07228 [D7= 60.min; Length= 4616; hrs; WtHrs= 2471; DryHrs= 4169; PTO7= 424.40]
07229 Maximum average rainfall intensities over
07230 1 hr 2 hrs 3 hrs 6 hrs 12 hrs 24 hrs 36 hrs 48 hrs 72 hrs
07231 17.50 10.10 9.03 6.57 3.11 1.65 1.45 1.22 .97 mm/hr
07232 17.50 20.20 27.10 39.40 39.50 39.50 50.60 60.60 60.60 mm
07233 19990717 19990717 19990906 19990906 19990906 19990907 19990908 19990908 date
07234 Number of rainfall events per following interval time
07235 1 hr 2 hrs 3 hrs 6 hrs 12 hrs 24 hrs 36 hrs 48 hrs 72 hrs
07236 1.02 80 70 63 56 38 30 28 18
07237 Number of events with at least the following durations
07238 1 hr 2 hrs 3 hrs 6 hrs 12 hrs 24 hrs 36 hrs 48 hrs 72 hrs
07239 1.01 57 31 10 1 0 0 0 0
07240 \*\*\*\*\*
07241 COMPUTE API
07242 [APIIN= 50.00; APIKdy= 9000; APIKdx= 9956]
07243 [APImax= 69.51; APIavg= 24.05; APImin= 1.93]
07244 R1999-C0004-----Dmain-ID-NHYD-----AREHA-OPERAcs-TpeakDate\_hh:mm-----Rvm-R-C-----DWfcs
07245 CONTINUOUS NASHYD 5.0 01:INT-3 3.44 .018 1999.0906.10:45 156.41 368 .000
07246 [CN= 38.1; N= 3.00; Tpe= 1.21]
07247 [IAREC= 6.00; SMIN= 67.13; SMAX= 448.24; SK= 030]
07248 [InterVntTime= 12.00]
07249 R1999-C0005-----Dmain-ID-NHYD-----AREHA-OPERAcs-TpeakDate\_hh:mm-----Rvm-R-C-----DWfcs
07250 CONTINUOUS NASHYD 5.0 01:INT-2 32.80 .040 1999.0906.10:25 157.61 368 .000
07251 [CN= 53.0; N= 3.00; Tpe= 1.29]
07252 [IAREC= 6.00; SMIN= 71.21; SMAX= 606.70; SK= 030]
07253 [InterVntTime= 12.00]
07254 R1999-C0006-----Dmain-ID-NHYD-----AREHA-OPERAcs-TpeakDate\_hh:mm-----Rvm-R-C-----DWfcs
07255 CONTINUOUS NASHYD 5.0 01:INT-2 4.24 .018 1999.0906.10:45 156.41 368 .000
07256 [CN= 47.7; N= 3.00; Tpe= 1.21]
07257 [IAREC= 6.00; SMIN= 67.13; SMAX= 168.09; SK= 030]
07258 [InterVntTime= 12.00]
07259 R1999-C0007-----Dmain-ID-NHYD-----AREHA-OPERAcs-TpeakDate\_hh:mm-----Rvm-R-C-----DWfcs
07260 ADD HYD + 5.0 02:HRTM-2 12.44 .040 1999.0906.10:25 156.81 n/a .000
07261 [CN= 40.0; N= 3.00; Tpe= 1.21]
07262 [IAREC= 6.00; SMIN= 67.13; SMAX= 448.24; SK= 030]
07263 [InterVntTime= 12.00]
07264 R1999-C0008-----Dmain-ID-NHYD-----AREHA-OPERAcs-TpeakDate\_hh:mm-----Rvm-R-C-----DWfcs
07265 ROUTE CHANNEL -> 5.0 02:INT-3 49.51 .085 1999.0906.10:40 156.60 n/a .000
07266 [RDY= 5.0] out< 5.0 01:81 49.51 .084 1999.0906.10:55 156.60 n/a .000
07267 [L/S/N= 440./ 440./035]
07268 [Vmax= 375/Dmax= 155]
07269 R1999-C0009-----Dmain-ID-NHYD-----AREHA-OPERAcs-TpeakDate\_hh:mm-----Rvm-R-C-----DWfcs
07270 CONTINUOUS NASHYD 5.0 01:INT-1 21.44 .034 1999.0906.10:45 157.14 370 .000
07271 [CN= 60.4; N= 3.00; Tpe= 1.66]
07272 [IAREC= 6.00; SMIN= 67.13; SMAX= 448.24; SK= 030]
07273 [InterVntTime= 12.00]
07274 R1999-C0010-----Dmain-ID-NHYD-----AREHA-OPERAcs-TpeakDate\_hh:mm-----Rvm-R-C-----DWfcs
07275 CONTINUOUS NASHYD 5.0 01:INT-2 9.14 .024 1999.0906.10:45 157.04 370 .000
07276 [CN= 47.4; N= 3.00; Tpe= .95]
07277 [IAREC= 6.00; SMIN= 67.13; SMAX= 768.40; SK= 030]
07278 [InterVntTime= 12.00]
07279 R1999-C0011-----Dmain-ID-NHYD-----AREHA-OPERAcs-TpeakDate\_hh:mm-----Rvm-R-C-----DWfcs
07280 CONTINUOUS NASHYD 5.0 01:INT-1 21.44 .034 1999.0906.10:45 157.04 370 .000
07281 [CN= 58.4; N= 3.00; Tpe= 1.46]
07282 [IAREC= 6.00; SMIN= 67.13; SMAX= 487.55; SK= 030]
07283 [InterVntTime= 12.00]
07284 R1999-C0012-----Dmain-ID-NHYD-----AREHA-OPERAcs-TpeakDate\_hh:mm-----Rvm-R-C-----DWfcs
07285 CONTINUOUS STANHYD 5.0 01:Pond3-1 10.00 .198 1999.0717.15:00 145.51 343 .000
07286 [XIMP= 64;TMP= 74]
07287 [Borton parameters: Fw= 76.20;Fw= 13.20;DCAY= 4.14; P=\*\*\*\*]
07288 [Previous area: Iapex= 4.67;SLDIP= 2.50;LSDIP= 100;MNP= 250;ISCP= .0]
07289 [Impervious area: IAImp= 1.57;SLDIP= 1.50;LSDIP= 50;MNP= 0;ISCP= .0]
07290 [IARECimp= 12.00; IAREC= 12.00]
07291 R1999-C0013-----Dmain-ID-NHYD-----AREHA-OPERAcs-TpeakDate\_hh:mm-----Rvm-R-C-----DWfcs
07292 ROUTE RESERVOIR -> 5.0 02:Pond3-1 10.00 .026 1999.0906.11:05 145.51 n/a .000
07293 overflow <= 5.0 03:Pond3-Over 1.21 .003 1999.0906.11:05 217.57 n/a .000
07294 [MdtOfSeed= 1.188E+03; M3\_TotDvVol= 0.000E+00; M3\_NrVof= 0; TotDvVol= 0.0]
07295 [MdtOfSeed= 2.66E+01; M3\_TotDvVol= 0.000E+00; M3\_NrVof= 0; TotDvVol= 0.0]
07296 R1999-C0014-----Dmain-ID-NHYD-----AREHA-OPERAcs-TpeakDate\_hh:mm-----Rvm-R-C-----DWfcs
07297 ADD HYD + 5.0 02:Pond3-1 10.00 .026 1999.0906.11:05 145.51 n/a .000
07298 overflow <= 5.0 03:Pond3-Over 1.21 .003 1999.0906.11:05 217.57 n/a .000
07299 [MdtOfSeed= 1.188E+03; M3\_TotDvVol= 0.000E+00; M3\_NrVof= 0; TotDvVol= 0.0]
07300 R1999-C0015-----Dmain-ID-NHYD-----AREHA-OPERAcs-TpeakDate\_hh:mm-----Rvm-R-C-----DWfcs
07301 ROUTE CHANNEL -> 5.0 02:Pond3-1 1.21 .003 1999.0906.10:45 157.57 n/a .000
07302 [RDY= 5.0] out< 5.0 01:81C-R 1.21 .003 1999.0906.10:55 157.57 n/a .000
07303 [L/S/N= 500./ 140./035]
07304 [Vmax= .975/Dmax= .938]
07305 R1999-C0016-----Dmain-ID-NHYD-----AREHA-OPERAcs-TpeakDate\_hh:mm-----Rvm-R-C-----DWfcs
07306 CONTINUOUS NASHYD 5.0 01:INT-3 5.71 .024 1999.0906.10:40 157.04 370 .000
07307 [CN= 38.1; N= 3.00; Tpe= 1.21]
07308 [IAREC= 6.00; SMIN= 71.21; SMAX= 487.55; SK= 030]
07309 [InterVntTime= 12.00]
07310 R1999-C0017-----Dmain-ID-NHYD-----AREHA-OPERAcs-TpeakDate\_hh:mm-----Rvm-R-C-----DWfcs
07311 ADD HYD + 5.0 02:81 49.51 .084 1999.0906.10:55 156.60 n/a .000
07312 [CN= 40.0; N= 3.00; Tpe= 1.21]
07313 [IAREC= 6.00; SMIN= 67.13; SMAX= 448.24; SK= 030]
07314 [InterVntTime= 12.00]
07315 + 5.0 02:INT-3 9.71 .024 1999.0906.10:40 157.04 n/a .000
07316 + 5.0 02:81A 21.44 .034 1999.0906.10:45 157.14 n/a .000
07317 + 5.0 02:81C-R 1.21 .003 1999.0906.10:55 157.57 n/a .000
07318 R1999-C0018-----Dmain-ID-NHYD-----AREHA-OPERAcs-TpeakDate\_hh:mm-----Rvm-R-C-----DWfcs
07319 ROUTE CHANNEL -> 5.0 02:81 68.26 .148 1999.0906.10:35 157.76 n/a .000
07320 [RDY= 5.0] out< 5.0 01:81 68.26 .148 1999.0906.10:55 157.76 n/a .000
07321 [L/S/N= 359./ 359./035]
07322 [Vmax= 583/Dmax= 254]
07323 R1999-C0019-----Dmain-ID-NHYD-----AREHA-OPERAcs-TpeakDate\_hh:mm-----Rvm-R-C-----DWfcs
07324 CONTINUOUS NASHYD 5.0 01:81A 21.44 .034 1999.0906.10:45 156.30 368 .000
07325 [CN= 38.1; N= 3.00; Tpe= 1.48]
07326 [IAREC= 6.00; SMIN= 67.13; SMAX= 448.24; SK= 030]
07327 [InterVntTime= 12.00]
07328 R1999-C0020-----Dmain-ID-NHYD-----AREHA-OPERAcs-TpeakDate\_hh:mm-----Rvm-R-C-----DWfcs
07329 CONTINUOUS STANHYD 5.0 01:Pond3-1 10.00 .198 1999.0717.15:00 145.51 343 .000
07330 [XIMP= 64;TMP= 74]
07331 [Borton parameters: Fw= 76.20;Fw= 13.20;DCAY= 4.14; P=\*\*\*\*]
07332 [Previous area: Iapex= 4.67;SLDIP= 2.50;LSDIP= 100;MNP= 250;ISCP= .0]
07333 [Impervious area: IAImp= 1.57;SLDIP= 1.50;LSDIP= 50;MNP= 0;ISCP= .0]
07334 [IARECimp= 12.00; IAREC= 12.00]
07335 R1999-C0021-----Dmain-ID-NHYD-----AREHA-OPERAcs-TpeakDate\_hh:mm-----Rvm-R-C-----DWfcs
07336 ROUTE RESERVOIR -> 5.0 02:Pond3-1 10.00 .026 1999.0906.11:05 145.51 n/a .000
07337 overflow <= 5.0 03:Pond3-Over 1.21 .003 1999.0906.11:05 217.57 n/a .000
07338 [MdtOfSeed= 1.188E+03; M3\_TotDvVol= 0.000E+00; M3\_NrVof= 0; TotDvVol= 0.0]
07339 [MdtOfSeed= 2.66E+01; M3\_TotDvVol= 0.000E+00; M3\_NrVof= 0; TotDvVol= 0.0]
07340 R1999-C0022-----Dmain-ID-NHYD-----AREHA-OPERAcs-TpeakDate\_hh:mm-----Rvm-R-C-----DWfcs
07341 CONTINUOUS NASHYD 5.0 01:81 9.14 .024 1999.0906.10:15 157.60 371 .000
07342 [CN= 68.4; N= 3.00; Tpe= 1.21]
07343 [IAREC= 6.00; SMIN= 48.56; SMAX= 323.73; SK= 030]
07344 [InterVntTime= 12.00]
07345 R1999-C0023-----Dmain-ID-NHYD-----AREHA-OPERAcs-TpeakDate\_hh:mm-----Rvm-R-C-----DWfcs
07346 ADD HYD + 5.0 02:81 68.26 .148 1999.0906.10:45 157.76 n/a .000
07347 [CN= 40.0; N= 3.00; Tpe= 1.21]
07348 + 5.0 02:81A 21.44 .034 1999.0906.10:45 157.14 n/a .000
07349 + 5.0 02:Pond3-Over 1.21 .003 1999.0906.11:05 217.57 n/a .000
07350 [MdtOfSeed= 1.188E+03; M3\_TotDvVol= 0.000E+00; M3\_NrVof= 0; TotDvVol= 0.0]
07351 [MdtOfSeed= 2.66E+01; M3\_TotDvVol= 0.000E+00; M3\_NrVof= 0; TotDvVol= 0.0]
07352 R1999-C0024-----Dmain-ID-NHYD-----AREHA-OPERAcs-TpeakDate\_hh:mm-----Rvm-R-C-----DWfcs
07353 CONTINUOUS NASHYD 5.0 01:INT-3 108.84 .255 1999.0906.10:35 156.32 n/a .000
07354 [L/S/N= 386./ 303./035]
07355 [Vmax= 389/Dmax= 254]
07356 R1999-C0025-----Dmain-ID-NHYD-----AREHA-OPERAcs-TpeakDate\_hh:mm-----Rvm-R-C-----DWfcs
07357 CONTINUOUS NASHYD 5.0 01:SOOTH-1 20.21 .033 1999.0906.10:35 156.26 368 .000
07358 [CN= 35.1; N= 3.00; Tpe= 1.40]
07359 [IAREC= 6.00; SMIN= 67.13; SMAX= 448.24; SK= 030]
07360 [InterVntTime= 12.00]
07361 R1999-C0026-----Dmain-ID-NHYD-----AREHA-OPERAcs-TpeakDate\_hh:mm-----Rvm-R-C-----DWfcs
07362 ADD HYD + 5.0 02:81 68.26 .148 1999.0906.10:45 157.76 n/a .000
07363 [CN= 40.0; N= 3.00; Tpe= 1.21]
07364 + 5.0 02:SOOTH-1 20.21 .033 1999.0906.10:35 156.26 n/a .000
07365 [MdtOfSeed= 1.188E+03; M3\_TotDvVol= 0.000E+00; M3\_NrVof= 0; TotDvVol= 0.0]
07366 R1999-C0027-----Dmain-ID-NHYD-----AREHA-OPERAcs-TpeakDate\_hh:mm-----Rvm-R-C-----DWfcs
07367 ROUTE CHANNEL -> 5.0 01:81 129.05 .283 1999.0906.10:50 156.31 n/a .000
07368 [RDY= 5.0] out< 5.0 01:81 129.05 .283 1999.0906.10:55 156.31 n/a .000
07369 [L/S/N= 482./ 410./035]
07370 [Vmax= 583/Dmax= 254]
07371 R1999-C0028-----Dmain-ID-NHYD-----AREHA-OPERAcs-TpeakDate\_hh:mm-----Rvm-R-C-----DWfcs
07372 CONTINUOUS STANHYD 5.0 01:INT-2 11.61 .022 1999.0906.10:15 156.30 368 .000
07373 [CN= 36.7; N= 3.00; Tpe= .96]
07374 [IAREC= 6.00; SMIN= 67.13; SMAX= 448.24; SK= 030]
07375 [InterVntTime= 12.00]
07376 R1999-C0029-----Dmain-ID-NHYD-----AREHA-OPERAcs-TpeakDate\_hh:mm-----Rvm-R-C-----DWfcs
07377 ADD HYD + 5.0 02:SOOTH-2 11.61 .022 1999.0906.10:15 156.30 n/a .000
07378 [CN= 36.7; N= 3.00; Tpe= 1.21]
07379 [IAREC= 6.00; SMIN= 67.13; SMAX= 448.24; SK= 030]
07380 [InterVntTime= 12.00]
07381 R1999-C0030-----Dmain-ID-NHYD-----AREHA-OPERAcs-TpeakDate\_hh:mm-----Rvm-R-C-----DWfcs
07382 ROUTE RESERVOIR -> 5.0 02:Pond3-1 10.00 .027 2000.0626.10:00 165.42 n/a .000
07383 overflow <= 5.0 03:Pond3-Over 1.21 .003 2000.0626.10:30 269.07 n/a .000



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079211 [IARCC 6.00] SMIN: 91.01: SMAK=606.70: SK= 030]
079212 [InterEventTime= 12.00]
079223 R2003-C00006 -----DtmIn-IDBYND-----AREAA-OPAEARCS-TPeakDate_hh:mm-----RvM-R-C-----DWPFMS
079224 CONTINUOUS NASHDY 5.0 01:INT-1 2.36 .031 2003.0711.17:45 199.04 359 .000
079225 [Cm 41.4# 3.00: Tp= .81]
079226 [IARCC 6.00] SMIN: 25.21: SMAK=168.09: SK= 030]
079227 [InterEventTime= 12.00]
079288 R2003-C00007 -----DtmIn-IDBYND-----AREAA-OPAEARCS-TPeakDate_hh:mm-----RvM-R-C-----DWPFMS
079289 ADD HYD 5.0 02:INT-1 34.70 .062 2003.1021.11:35 179.04 n/a .000
079290 * 5.0 02:INT-2 12.00 .062 2003.1021.11:35 183.22 n/a .000
079291 + 5.0 02:INT-3 2.36 .031 2003.0711.17:45 199.04 n/a .000
079292 [IARCC 6.00] SMIN: 191.09: SMAK=48.24: SK= 030]
079293 CONTINUOUS NASHDY 5.0 01:INT-1 139.00 .020 2003.1021.9:30 181.05 n/a .000
079294 R2003-C00008 -----DtmIn-IDBYND-----AREAA-OPAEARCS-TPeakDate_hh:mm-----RvM-R-C-----DWPFMS
079295 ROUTE CHANNEL -> 5.0 02:Pnd-1 49.51 .115 2003.1021.9:30 181.05 n/a .000
079296 [RPT= 5.00] out<- 5.0 01:INT-1 49.51 .114 2003.1021.9:45 181.05 n/a .000
079297 [L/S# 18 / 440 / 035]
079298 [Vmax= 496:Imax= 188]
079388 R2003-C00009 -----DtmIn-IDBYND-----AREAA-OPAEARCS-TPeakDate_hh:mm-----RvM-R-C-----DWPFMS
079389 CONTINUOUS NASHDY 5.0 01:INT-1 4.39 .024 2003.1021.9:35 186.02 335 .000
079390 [Cm 47.4# 3.00: Tp= .81]
079411 [IARCC 6.00] SMIN: 67.24: SMAK=448.24: SK= 030]
079412 [InterEventTime= 12.00]
079433 R2003-C00010 -----DtmIn-IDBYND-----AREAA-OPAEARCS-TPeakDate_hh:mm-----RvM-R-C-----DWPFMS
079434 CONTINUOUS NASHDY 5.0 01:INT-2 3.61 .020 2003.0711.17:35 181.39 327 .000
079435 [Cm 48.4# 3.00: Tp= 1.66]
079445 [IARCC 6.00] SMIN: 115.26: SMAK=768.40: SK= 030]
079446 [InterEventTime= 12.00]
079488 R2003-C00011 -----DtmIn-IDBYND-----AREAA-OPAEARCS-TPeakDate_hh:mm-----RvM-R-C-----DWPFMS
079489 CONTINUOUS NASHDY 5.0 01:IAA 3.84 .022 2003.0711.18:05 185.19 334 .000
079490 [Cm 48.4# 3.00: Tp= 1.66]
079511 [IARCC 6.00] SMIN: 73.11: SMAK=487.55: SK= 030]
079512 [InterEventTime= 12.00]
079523 R2003-C00012 -----DtmIn-IDBYND-----AREAA-OPAEARCS-TPeakDate_hh:mm-----RvM-R-C-----DWPFMS
079524 CONTINUOUS STANDBY 5.0 01:Pond-1-in 1.21 .035 2003.0711.17:00 285.99 516 .000
079525 [XIMP= 64:TIMP= 75]
079556 [Horton parameters: Fp= 76.20:Fp= 13.20:DCAV= 1.4: P=****]
079557 [Impervious area: IAPer= 4.67:SLP= 2.00:IDP= 500: HMP= 250:SCW= 0]
079558 [Impervious area: IAIMp= 1.57:SLP1= 2.50:IDP1= 50: HMI= 0:13:SC1= 0]
079559 [IARCCmp= 12.00: IARCCPer= 12.00]
079611 [InterEventTime= 12.00]
079612 ROUTE RESERVOIR -> 5.0 02:Pond-1-in 1.21 .035 2003.0711.17:00 285.99 n/a .000
079613 out<- 5.0 01:Pond-1-out 1.21 .035 2003.0711.17:00 285.99 n/a .000
079614 overlow<= 5.0 03:Pond-1-over 0.00 .000 2003.0501.0:00 .00 n/a .000
079615 [MsdTosEd= .2824E-01 m3, TotVolVVol=.0000E+00 m3, N-Vol= 0, TotDurV= 0 hrs]
079616 ADD HYD 5.0 02:IAA 1.21 .027 2003.0711.18:05 185.19 n/a .000
079617 + 5.0 02:IAA 3.84 .022 2003.0711.18:05 185.19 n/a .000
079618 SIM= 5.0 01:Pond-1-out 1.21 .035 2003.1021.9:30 285.97 n/a .000
079619 [IARCC 6.00] SMIN: 121.21: SMAK=487.55: SK= 030]
079620 [InterEventTime= 12.00]
079711 R2003-C00013 -----DtmIn-IDBYND-----AREAA-OPAEARCS-TPeakDate_hh:mm-----RvM-R-C-----DWPFMS
079712 ROUTE CHANNEL -> 5.0 02:Pnd-1-out 1.21 .035 2003.1021.11:30 285.97 n/a .000
079713 [RPT= 5.00] out<- 5.0 01:IAI-C-R 1.21 .033 2003.1021.11:30 285.97 n/a .000
079714 [L/S# 18 / 440 / 035]
079733 [Vmax= .075:Imax= .939]
079794 R2003-C00014 -----DtmIn-IDBYND-----AREAA-OPAEARCS-TPeakDate_hh:mm-----RvM-R-C-----DWPFMS
079795 CONTINUOUS NASHDY 5.0 01:INT-1 5.71 .047 2003.0711.17:35 185.19 334 .000
079796 [Cm 58.5# 3.00: Tp= .81]
079797 [IARCC 6.00] SMIN: 191.09: SMAK=487.55: SK= 030]
079798 [InterEventTime= 12.00]
079799 [InterEventTime= 12.00]
079800 CONTINUOUS STANDBY 5.0 01:Pond-1-in 10.00 .201 2003.0711.17:00 177.11 319 .000
079801 [XIMP= 38:TIMP= 74]
079802 [Horton parameters: Fp= 76.20:Fp= 13.20:DCAV= 1.4: P=****]
079803 [Impervious area: IAPer= 4.67:SLP= 2.00:IDP= 500: HMP= 250:SCW= 0]
079804 [Impervious area: IAIMp= 1.57:SLP1= 2.50:IDP1= 50: HMI= 0:13:SC1= 0]
079805 [IARCCmp= 12.00: IARCCPer= 12.00]
080003 R2003-C00021 -----DtmIn-IDBYND-----AREAA-OPAEARCS-TPeakDate_hh:mm-----RvM-R-C-----DWPFMS
080004 CONTINUOUS STANDBY 5.0 01:Pond-1-in 10.00 .201 2003.0711.17:00 177.11 n/a .000
080005 overlow<= 5.0 01:Pond-1-out 10.00 .204 2003.0711.19:15 177.11 n/a .000
080006 out<- 5.0 01:Pond-1-out 10.00 .204 2003.0711.19:15 177.11 n/a .000
080007 [MsdTosEd= .9654E-01 m3, TotVolVVol=.0000E+00 m3, N-Vol= 0, TotDurV= 0 hrs]
080008 [IARCC 6.00] SMIN: 191.09: SMAK=487.55: SK= 030]
080009 [InterEventTime= 12.00]
080111 [Cm 48.4# 3.00: Tp= 1.12]
080112 [IARCC 6.00] SMIN: 323.73: SMAK=323.73: SK= 030]
080113 [InterEventTime= 12.00]
080148 R2003-C00023 -----DtmIn-IDBYND-----AREAA-OPAEARCS-TPeakDate_hh:mm-----RvM-R-C-----DWPFMS
080149 ADD HYD 5.0 02:IAA 108.84 .229 2003.1021.9:40 181.81 n/a .000
080150 + 5.0 02:IAA 21.43 .057 2003.1021.9:40 178.41 322 .000
080151 [IARCC 6.00] SMIN: 191.09: SMAK=487.55: SK= 030]
080152 [InterEventTime= 12.00]
080153 [IARCC 6.00] SMIN: 191.09: SMAK=487.55: SK= 030]
080154 [InterEventTime= 12.00]
080155 CONTINUOUS STANDBY 5.0 01:INT-3 5.71 .047 2003.0711.17:35 185.19 334 .000
080156 [Cm 58.5# 3.00: Tp= .81]
080157 [IARCC 6.00] SMIN: 191.09: SMAK=487.55: SK= 030]
080158 [InterEventTime= 12.00]
080159 [InterEventTime= 12.00]
080160 CONTINUOUS STANDBY 5.0 01:Pond-1-in 10.00 .201 2003.0711.17:00 177.11 319 .000
080161 [XIMP= 38:TIMP= 74]
080162 [Horton parameters: Fp= 76.20:Fp= 13.20:DCAV= 1.4: P=****]
080163 [Impervious area: IAPer= 4.67:SLP= 2.00:IDP= 500: HMP= 250:SCW= 0]
080164 [Impervious area: IAIMp= 1.57:SLP1= 2.50:IDP1= 50: HMI= 0:13:SC1= 0]
080165 [IARCCmp= 12.00: IARCCPer= 12.00]
080203 R2003-C00024 -----DtmIn-IDBYND-----AREAA-OPAEARCS-TPeakDate_hh:mm-----RvM-R-C-----DWPFMS
080204 CONTINUOUS STANDBY 5.0 01:Pond-1-in 10.00 .201 2003.0711.17:00 177.11 n/a .000
080205 overlow<= 5.0 01:Pond-1-out 10.00 .204 2003.0711.19:15 177.11 n/a .000
080206 out<- 5.0 01:Pond-1-out 10.00 .204 2003.0711.19:15 177.11 n/a .000
080207 [MsdTosEd= .9654E-01 m3, TotVolVVol=.0000E+00 m3, N-Vol= 0, TotDurV= 0 hrs]
080208 [IARCC 6.00] SMIN: 191.09: SMAK=487.55: SK= 030]
080209 [InterEventTime= 12.00]
080211 [Cm 48.4# 3.00: Tp= 1.12]
080212 [IARCC 6.00] SMIN: 323.73: SMAK=323.73: SK= 030]
080213 [InterEventTime= 12.00]
080214 R2003-C00025 -----DtmIn-IDBYND-----AREAA-OPAEARCS-TPeakDate_hh:mm-----RvM-R-C-----DWPFMS
080215 ADD HYD 5.0 02:IAA 108.84 .229 2003.1021.9:40 181.81 n/a .000
080216 + 5.0 02:IAA 21.43 .057 2003.1021.9:40 178.41 322 .000
080217 [IARCC 6.00] SMIN: 191.09: SMAK=487.55: SK= 030]
080218 [InterEventTime= 12.00]
080219 [InterEventTime= 12.00]
080220 CONTINUOUS STANDBY 5.0 01:INT-3 5.71 .047 2003.0711.17:35 185.19 334 .000
080221 [Cm 58.5# 3.00: Tp= .81]
080222 [IARCC 6.00] SMIN: 191.09: SMAK=487.55: SK= 030]
080223 [InterEventTime= 12.00]
080224 [InterEventTime= 12.00]
080225 CONTINUOUS STANDBY 5.0 01:Pond-1-in 10.00 .201 2003.0711.17:00 177.11 319 .000
080226 [XIMP= 38:TIMP= 74]
080227 [Horton parameters: Fp= 76.20:Fp= 13.20:DCAV= 1.4: P=****]
080228 [Impervious area: IAPer= 4.67:SLP= 2.00:IDP= 500: HMP= 250:SCW= 0]
080229 [Impervious area: IAIMp= 1.57:SLP1= 2.50:IDP1= 50: HMI= 0:13:SC1= 0]
080230 [IARCCmp= 12.00: IARCCPer= 12.00]
080231 R2003-C00026 -----DtmIn-IDBYND-----AREAA-OPAEARCS-TPeakDate_hh:mm-----RvM-R-C-----DWPFMS
080232 CONTINUOUS STANDBY 5.0 01:Pond-1-in 10.00 .201 2003.0711.17:00 177.11 n/a .000
080233 overlow<= 5.0 01:Pond-1-out 10.00 .204 2003.0711.19:15 177.11 n/a .000
080234 out<- 5.0 01:Pond-1-out 10.00 .204 2003.0711.19:15 177.11 n/a .000
080235 [MsdTosEd= .9654E-01 m3, TotVolVVol=.0000E+00 m3, N-Vol= 0, TotDurV= 0 hrs]
080236 [IARCC 6.00] SMIN: 191.09: SMAK=487.55: SK= 030]
080237 [InterEventTime= 12.00]
080238 [Cm 48.4# 3.00: Tp= 1.12]
080239 [IARCC 6.00] SMIN: 323.73: SMAK=323.73: SK= 030]
080240 [InterEventTime= 12.00]
080241 R2003-C00027 -----DtmIn-IDBYND-----AREAA-OPAEARCS-TPeakDate_hh:mm-----RvM-R-C-----DWPFMS
080242 ADD HYD 5.0 02:IAA 108.84 .229 2003.1021.9:40 181.81 n/a .000
080243 + 5.0 02:IAA 21.43 .057 2003.1021.9:40 178.41 322 .000
080244 [IARCC 6.00] SMIN: 191.09: SMAK=487.55: SK= 030]
080245 [InterEventTime= 12.00]
080246 [InterEventTime= 12.00]
080247 CONTINUOUS STANDBY 5.0 01:INT-3 5.71 .047 2003.0711.17:35 185.19 334 .000
080248 [Cm 58.5# 3.00: Tp= .81]
080249 [IARCC 6.00] SMIN: 191.09: SMAK=487.55: SK= 030]
080250 [InterEventTime= 12.00]
080251 [InterEventTime= 12.00]
080252 CONTINUOUS STANDBY 5.0 01:Pond-1-in 10.00 .201 2003.0711.17:00 177.11 319 .000
080253 [XIMP= 38:TIMP= 74]
080254 [Horton parameters: Fp= 76.20:Fp= 13.20:DCAV= 1.4: P=****]
080255 [Impervious area: IAPer= 4.67:SLP= 2.00:IDP= 500: HMP= 250:SCW= 0]
080256 [Impervious area: IAIMp= 1.57:SLP1= 2.50:IDP1= 50: HMI= 0:13:SC1= 0]
080257 [IARCCmp= 12.00: IARCCPer= 12.00]
080258 R2003-C00028 -----DtmIn-IDBYND-----AREAA-OPAEARCS-TPeakDate_hh:mm-----RvM-R-C-----DWPFMS
080259 ADD HYD 5.0 02:IAA 108.84 .229 2003.1021.9:40 181.81 n/a .000
080260 + 5.0 02:IAA 21.43 .057 2003.1021.9:40 178.41 322 .000
080261 [IARCC 6.00] SMIN: 191.09: SMAK=487.55: SK= 030]
080262 [InterEventTime= 12.00]
080263 [InterEventTime= 12.00]
080264 CONTINUOUS STANDBY 5.0 01:INT-3 5.71 .047 2003.0711.17:35 185.19 334 .000
080265 [Cm 58.5# 3.00: Tp= .81]
080266 [IARCC 6.00] SMIN: 191.09: SMAK=487.55: SK= 030]
080267 [InterEventTime= 12.00]
080268 [InterEventTime= 12.00]
080269 CONTINUOUS STANDBY 5.0 01:Pond-1-in 10.00 .201 2003.0711.17:00 177.11 319 .000
080270 [XIMP= 38:TIMP= 74]
080271 [Horton parameters: Fp= 76.20:Fp= 13.20:DCAV= 1.4: P=****]
080272 [Impervious area: IAPer= 4.67:SLP= 2.00:IDP= 500: HMP= 250:SCW= 0]
080273 [Impervious area: IAIMp= 1.57:SLP1= 2.50:IDP1= 50: HMI= 0:13:SC1= 0]
080274 [IARCCmp= 12.00: IARCCPer= 12.00]
080275 R2003-C00029 -----DtmIn-IDBYND-----AREAA-OPAEARCS-TPeakDate_hh:mm-----RvM-R-C-----DWPFMS
080276 ADD HYD 5.0 02:IAA 108.84 .229 2003.1021.9:40 181.81 n/a .000
080277 + 5.0 02:IAA 21.43 .057 2003.1021.9:40 178.41 322 .000
080278 [IARCC 6.00] SMIN: 191.09: SMAK=487.55: SK= 030]
080279 [InterEventTime= 12.00]
080280 [InterEventTime= 12.00]
080281 CONTINUOUS STANDBY 5.0 01:INT-3 5.71 .047 2003.0711.17:35 185.19 334 .000
080282 [Cm 58.5# 3.00: Tp= .81]
080283 [IARCC 6.00] SMIN: 191.09: SMAK=487.55: SK= 030]
080284 [InterEventTime= 12.00]
080285 [InterEventTime= 12.00]
080286 CONTINUOUS STANDBY 5.0 01:Pond-1-in 10.00 .201 2003.0711.17:00 177.11 319 .000
080287 [XIMP= 38:TIMP= 74]
080288 [Horton parameters: Fp= 76.20:Fp= 13.20:DCAV= 1.4: P=****]
080289 [Impervious area: IAPer= 4.67:SLP= 2.00:IDP= 500: HMP= 250:SCW= 0]
080290 [Impervious area: IAIMp= 1.57:SLP1= 2.50:IDP1= 50: HMI= 0:13:SC1= 0]
080291 [IARCCmp= 12.00: IARCCPer= 12.00]
080292 R2003-C00030 -----DtmIn-IDBYND-----AREAA-OPAEARCS-TPeakDate_hh:mm-----RvM-R-C-----DWPFMS
080293 CONTINUOUS STANDBY 5.0 01:INT-3 5.71 .047 2003.0711.17:35 185.19 334 .000
080294 [Cm 58.5# 3.00: Tp= .81]
080295 [IARCC 6.00] SMIN: 191.09: SMAK=487.55: SK= 030]
080296 [InterEventTime= 12.00]
080297 [InterEventTime= 12.00]
080298 CONTINUOUS STANDBY 5.0 01:Pond-1-in 10.00 .201 2003.0711.17:00 177.11 319 .000
080299 [XIMP= 38:TIMP= 74]
080300 [Horton parameters: Fp= 76.20:Fp= 13.20:DCAV= 1.4: P=****]
080301 [Impervious area: IAPer= 4.67:SLP= 2.00:IDP= 500: HMP= 250:SCW= 0]
080302 [Impervious area: IAIMp= 1.57:SLP1= 2.50:IDP1= 50: HMI= 0:13:SC1= 0]
080303 [IARCCmp= 12.00: IARCCPer= 12.00]
080304 R2003-C00031 -----DtmIn-IDBYND-----AREAA-OPAEARCS-TPeakDate_hh:mm-----RvM-R-C-----DWPFMS
080305 CONTINUOUS STANDBY 5.0 01:INT-3 5.71 .047 2003.0711.17:35 185.19 334 .000
080306 [Cm 58.5# 3.00: Tp= .81]
080307 [IARCC 6.00] SMIN: 191.09: SMAK=487.55: SK= 030]
080308 [InterEventTime= 12.00]
080309 [InterEventTime= 12.00]
080310 CONTINUOUS STANDBY 5.0 01:Pond-1-in 10.00 .201 2003.0711.17:00 177.11 319 .000
080311 [XIMP= 38:TIMP= 74]
080312 [Horton parameters: Fp= 76.20:Fp= 13.20:DCAV= 1.4: P=****]
080313 [Impervious area: IAPer= 4.67:SLP= 2.00:IDP= 500: HMP= 250:SCW= 0]
080314 [Impervious area: IAIMp= 1.57:SLP1= 2.50:IDP1= 50: HMI= 0:13:SC1= 0]
080315 [IARCCmp= 12.00: IARCCPer= 12.00]
080316 R2003-C00032 -----DtmIn-IDBYND-----AREAA-OPAEARCS-TPeakDate_hh:mm-----RvM-R-C-----DWPFMS
080317 CONTINUOUS STANDBY 5.0 01:INT-3 5.71 .047 2003.0711.17:35 185.19 334 .000
080318 [Cm 58.5# 3.00: Tp= .81]
080319 [IARCC 6.00] SMIN: 191.09: SMAK=487.55: SK= 030]
080320 [InterEventTime= 12.00]
080321 [InterEventTime= 12.00]
080322 CONTINUOUS STANDBY 5.0 01:Pond-1-in 10.00 .201 2003.0711.17:00 177.11 319 .000
080323 [XIMP= 38:TIMP= 74]
080324 [Horton parameters: Fp= 76.20:Fp= 13.20:DCAV= 1.4: P=****]
080325 [Impervious area: IAPer= 4.67:SLP= 2.00:IDP= 500: HMP= 250:SCW= 0]
080326 [Impervious area: IAIMp= 1.57:SLP1= 2.50:IDP1= 50: HMI= 0:13:SC1= 0]
080327 [IARCCmp= 12.00: IARCCPer= 12.00]
080328 R2003-C00033 -----DtmIn-IDBYND-----AREAA-OPAEARCS-TPeakDate_hh:mm-----RvM-R-C-----DWPFMS
080329 CONTINUOUS STANDBY 5.0 01:INT-3 5.71 .047 2003.0711.17:35 185.19 334 .000
080330 [Cm 58.5# 3.00: Tp= .81]
080331 [IARCC 6.00] SMIN: 191.09: SMAK=487.55: SK= 030]
080332 [InterEventTime= 12.00]
080333 [InterEventTime= 12.00]
080334 CONTINUOUS STANDBY 5.0 01:Pond-1-in 10.00 .201 2003.0711.17:00 177.11 319 .000
080335 [XIMP= 38:TIMP= 74]
080336 [Horton parameters: Fp= 76.20:Fp= 13.20:DCAV= 1.4: P=****]
080337 [Impervious area: IAPer= 4.67:SLP= 2.00:IDP= 500: HMP= 250:SCW= 0]
080338 [Impervious area: IAIMp= 1.57:SLP1= 2.50:IDP1= 50: HMI= 0:13:SC1= 0]
080339 [IARCCmp= 12.00: IARCCPer= 12.00]
080340 R2003-C00034 -----DtmIn-IDBYND-----AREAA-OPAEARCS-TPeakDate_hh:mm-----RvM-R-C-----DWPFMS
080341 CONTINUOUS STANDBY 5.0 01:INT-3 5.71 .047 2003.0711.17:35 185.19 334 .000
080342 [Cm 58.5# 3.00: Tp= .81]
080343 [IARCC 6.00] SMIN: 191.09: SMAK=487.55: SK= 030]
080344 [InterEventTime= 12.00]
080345 [InterEventTime= 12.00]
080346 CONTINUOUS STANDBY 5.0 01:Pond-1-in 10.00 .201 2003.0711.17:00 177.11 319 .000
080347 [XIMP= 38:TIMP= 74]
080348 [Horton parameters: Fp= 76.20:Fp= 13.20:DCAV= 1.4: P=****]
080349 [Impervious area: IAPer= 4.67:SLP= 2.00:IDP= 500: HMP= 250:SCW= 0]
080350 [Impervious area: IAIMp= 1.57:SLP1= 2.50:IDP1= 50: HMI= 0:13:SC1= 0]
080351 [IARCCmp= 12.00: IARCCPer= 12.00]
080352 R2003-C00035 -----DtmIn-IDBYND-----AREAA-OPAEARCS-TPeakDate_hh:mm-----RvM-R-C-----DWPFMS
080353 CONTINUOUS STANDBY 5.0 01:INT-3 5.71 .047 2003.0711.17:35 185.19 334 .000
080354 [Cm 58.5# 3.00: Tp= .81]
080355 [IARCC 6.00] SMIN: 191.09: SMAK=487.55: SK= 030]
080356 [InterEventTime= 12.00]
080357 [InterEventTime= 12.00]
080358 CONTINUOUS STANDBY 5.0 01:Pond-1-in 10.00 .201 2003.0711.17:00 177.11 319 .000
080359 [XIMP= 38:TIMP= 74]
080360 [Horton parameters: Fp= 76.20:Fp= 13.20:DCAV= 1.4: P=****]
080361 [Impervious area: IAPer= 4.67:SLP= 2.00:IDP= 500: HMP= 250:SCW= 0]
080362 [Impervious area: IAIMp= 1.57:SLP1= 2.50:IDP1= 50: HMI= 0:13:SC1= 0]
080363 [IARCCmp= 12.00: IARCCPer= 12.00]
080364 R2003-C00036 -----DtmIn-IDBYND-----AREAA-OPAEARCS-TPeakDate_hh:mm-----RvM-R-C-----DWPFMS
080365 CONTINUOUS STANDBY 5.0 01:INT-3 5.71 .047 2003.0711.17:35 185.19 334 .000
080366 [Cm 58.5# 3.00: Tp= .81]
080367 [IARCC 6.00] SMIN: 191.09: SMAK=487.55: SK= 030]
080368 [InterEventTime= 12.00]
080369 [InterEventTime= 12.00]
080370 CONTINUOUS STANDBY 5.0 01:Pond-1-in 10.00 .201 2003.0711.17:00 177.11 319 .000
080371 [XIMP= 38:TIMP= 74]
080372 [Horton parameters: Fp= 76.20:Fp= 13.20:DCAV= 1.4: P=****]
080373 [Impervious area: IAPer= 4.67:SLP= 2.00:IDP= 500: HMP= 250:SCW= 0]
080374 [Impervious area: IAIMp= 1.57:SLP1= 2.50:IDP1= 50: HMI= 0:13:SC1= 0]
080375 [IARCCmp= 12.00: IARCCPer= 12.00]
080376 R2003-C00037 -----DtmIn-IDBYND-----AREAA-OPAEARCS-TPeakDate_hh:mm-----RvM-R-C-----DWPFMS
080377 CONTINUOUS STANDBY 5.0 01:INT-3 5.71 .047 2003.0711.17:35 185.19 334 .000
080378 [Cm 58.5# 3.00: Tp= .81]
080379 [IARCC 6.00] SMIN: 191.09: SMAK=487.55: SK= 030]
080380 [InterEventTime= 12.00]
080381 [InterEventTime= 12.00]
080382 CONTINUOUS STANDBY 5.0 01:Pond-1-in 10.00 .201 2003.0711.17:00 177.11 319 .000
080383 [XIMP= 38:TIMP= 74]
080384 [Horton parameters: Fp= 76.20:Fp= 13.20:DCAV= 1.4: P=****]
080385 [Impervious area: IAPer= 4.67:SLP= 2.00:IDP= 500: HMP= 250:SCW= 0]
080386 [Impervious area: IAIMp= 1.57:SLP1= 2.50:IDP1= 50: HMI= 0:13:SC1= 0]
080387 [IARCCmp= 12.00: IARCCPer= 12.00]
080388 R2003-C00038 -----DtmIn-IDBYND-----AREAA-OPAEARCS-TPeakDate_hh:mm-----RvM-R-C-----DWPFMS
080389 CONTINUOUS STANDBY 5.0 01:INT-3 5.71 .047 2003.0711.17:35 185.19 334 .000
080390 [Cm 58.5# 3.00: Tp= .81]
080391 [IARCC 6.00] SMIN: 191.09: SMAK=487.55: SK= 030]
080392 [InterEventTime= 12.00]
080393 [InterEventTime= 12.00]
080394 CONTINUOUS STANDBY 5.0 01:Pond-1-in 10.00 .201 2003.0711.17:00 177.11 319 .000
080395 [XIMP= 38:TIMP= 74]
080396 [Horton parameters: Fp= 76.20:Fp= 13.20:DCAV= 1.4: P=****]
080397 [Impervious area: IAPer= 4.67:SLP= 2.00:IDP= 500: HMP= 250:SCW= 0]
080398 [Impervious area: IAIMp= 1.57:SLP1= 2.50:IDP1
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08641 [L/S= 500 / .140/.035]
08642 [Vmax .48]
08643 R2007-C00016-----Dtain-ID-BYHD-----AREBA-QPEARqms-TpeakDate_hh:mm-----RvMm-R.C-----DWPFms
CONTINUOUS STANBYD 5.0 01:3HT-3 5.71 .057 2007.0720.11:25 172.29 .313 .000
[Ch 15.1# N= 3.001 Tpe= 1.68]
08645 [IAREC 6.00 SMIN= 73.13 SMAX=487.55: EK= .030]
InterVntTime= 12.00]
08646
08647
08648 R2007-C00017-----Dtain-ID-BYHD-----AREBA-QPEARqms-TpeakDate_hh:mm-----RvMm-R.C-----DWPFms
ADD HYD 5.0 02:R1 49.51 .251 2007.0720.13:55 171.38 n/a .000
08649 + 5.0 02:INT-1 4.39 .041 2007.0720.13:20 172.49 n/a .000
08650 + 5.0 02:INT-2 3.61 .027 2007.0720.11:30 171.39 n/a .000
08651 SIM= 5.71 .057 2007.0720.11:25 172.29 n/a .000
08652 + 5.0 02:AIA 1.84 .035 2007.0720.11:50 172.29 n/a .000
08653 + 5.0 02:AIA-R 3.24 .021 2007.0720.15:00 279.70 n/a .000
08654 + 5.0 02:IC-1 68.26 .398 2007.0720.13:30 173.48 n/a .000
08655 SIM= 5.71 .057 2007.0720.11:25 172.29 n/a .000
08656 R2007-C00018-----Dtain-ID-BYHD-----AREBA-QPEARqms-TpeakDate_hh:mm-----RvMm-R.C-----DWPFms
ROUTE CHANNEL > 5.0 01:R2 68.26 .398 2007.0720.13:30 173.48 n/a .000
08657 [RDT= 5.00] out= 5.0 01:R2 68.26 .398 2007.0720.13:35 173.48 n/a .000
08658 [L/S= 181 / .500/.035]
08659 [Vmax .598]
08660
08661 R2007-C00019-----Dtain-ID-BYHD-----AREBA-QPEARqms-TpeakDate_hh:mm-----RvMm-R.C-----DWPFms
CONTINUOUS STANBYD 5.0 01:21A 21.43 .104 2007.0720.13:30 170.74 .310 .000
08662 [Ch 36.1# N= 3.001 Tpe= 1.68]
08663 [IAREC 6.00 SMIN=191.09 SMAX=*****: EK= .030]
08664 InterVntTime= 12.00]
08665
08666 R2007-C00020-----Dtain-ID-BYHD-----AREBA-QPEARqms-TpeakDate_hh:mm-----RvMm-R.C-----DWPFms
CONTINUOUS STANBYD 5.0 01:pond-in 10.00 .280 2007.0829.18:00 181.21 .329 .000
08667 [XMP= 38:TIMP= 74]
08668 [Rorton parameters: Pw= 76.2019% 13.20 DCON=4.14 P=*****]
08669 [Impervious area: Ialmp= 4.6751E+2.00 Ialmp= 1000.000 Ialmp= 250.000 Ialmp= 0]
08670 [Impervious area: Ialmp= 1.5715E+1.50 Ialmp= 250.000 Ialmp= 0]
08671 [InterVntTime= 12.00]
08672
08673 R2007-C00021-----Dtain-ID-BYHD-----AREBA-QPEARqms-TpeakDate_hh:mm-----RvMm-R.C-----DWPFms
ROUTE RESERVOIR > 5.0 02:pond-in 10.00 .280 2007.0829.18:00 181.21 n/a .000
08674 out <= 5.0 01:pond-out 10.00 .029 2007.0720.14:00 181.21 n/a .000
08675 overflow <= 5.0 03:pond-over 0.00 .000 2007.0401.0:00 .00 n/a .000
08676 [Method= 2E-11E+0.0000=0.00 n2. 0.000 0.000 0.000]
08677 [InterVntTime= 12.00]
08678 R2007-C00022-----Dtain-ID-BYHD-----AREBA-QPEARqms-TpeakDate_hh:mm-----RvMm-R.C-----DWPFms
CONTINUOUS STANBYD 5.0 01:A2 9.14 .109 2007.0720.11:30 173.50 .315 .000
08679 [Ch 48.4# N= 3.001 Tpe= 1.68]
08680 [IAREC 6.00 SMIN= 48.56 SMAX=323.73: EK= .030]
08681 InterVntTime= 12.00]
08682
08683 R2007-C00023-----Dtain-ID-BYHD-----AREBA-QPEARqms-TpeakDate_hh:mm-----RvMm-R.C-----DWPFms
ADD HYD 5.0 02:R2 68.26 .398 2007.0720.13:35 173.48 n/a .000
08684 + 5.0 02:R1 21.43 .104 2007.0720.13:30 170.74 n/a .000
08685 + 5.0 02:A2 9.14 .109 2007.0720.11:30 173.50 n/a .000
08686 + 5.0 02:IC-1 68.26 .398 2007.0720.13:30 173.48 n/a .000
08687 SIM= 5.71 .057 2007.0720.11:25 172.29 n/a .000
08688 + 5.0 02:pond-out 10.00 .029 2007.0720.14:00 181.21 n/a .000
08689 + 5.0 01:R2 108.84 .624 2007.0720.13:30 173.65 n/a .000
08690 R2007-C00024-----Dtain-ID-BYHD-----AREBA-QPEARqms-TpeakDate_hh:mm-----RvMm-R.C-----DWPFms
ROUTE CHANNEL > 5.0 01:R2 108.84 .624 2007.0720.13:30 173.65 n/a .000
08691 [RDT= 5.00] out= 5.0 01:R2 108.84 .624 2007.0720.13:35 173.65 n/a .000
08692 [L/S= 396 / .305/.035]
08693 [Vmax .444]
08694 [Vmax .444]
08695 CONTINUOUS STANBYD 5.0 01:SOUHT-1 20.21 .094 2007.0720.13:25 170.67 .310 .000
08696 [Ch 15.1# N= 3.001 Tpe= 1.68]
08697 [IAREC 6.00 SMIN=204.20 SMAX=*****: EK= .030]
08698 InterVntTime= 12.00]
08699
08700 R2007-C00025-----Dtain-ID-BYHD-----AREBA-QPEARqms-TpeakDate_hh:mm-----RvMm-R.C-----DWPFms
ADD HYD 5.0 02:R3 108.84 .623 2007.0720.13:35 173.65 n/a .000
08701 + 5.0 02:INT-1 20.21 .094 2007.0720.13:25 170.67 n/a .000
08702 SIM= 5.0 01:R4 129.05 .717 2007.0720.13:35 173.18 n/a .000
08703 R2007-C00027-----Dtain-ID-BYHD-----AREBA-QPEARqms-TpeakDate_hh:mm-----RvMm-R.C-----DWPFms
ROUTE CHANNEL > 5.0 01:R4 129.05 .717 2007.0720.13:35 173.18 n/a .000
08704 [RDT= 5.00] out= 5.0 01:R4 129.05 .717 2007.0720.13:40 173.18 n/a .000
08705 [L/S= 492 / .418]
08706 [Vmax .598]
08707
08708 R2007-C00028-----Dtain-ID-BYHD-----AREBA-QPEARqms-TpeakDate_hh:mm-----RvMm-R.C-----DWPFms
CONTINUOUS STANBYD 5.0 01:SOUHT-2 11.61 .060 2007.0720.11:30 170.74 .310 .000
08709 [Ch 36.1# N= 3.001 Tpe= .96]
08710 [IAREC 6.00 SMIN=141.94 SMAX=946.27: EK= .030]
08711 InterVntTime= 12.00]
08712
08713 R2007-C00029-----Dtain-ID-BYHD-----AREBA-QPEARqms-TpeakDate_hh:mm-----RvMm-R.C-----DWPFms
ADD HYD 5.0 02:SOUHT-2 11.61 .060 2007.0720.11:30 170.74 n/a .000
08714 + 5.0 02:SOUHT-1 20.21 .094 2007.0720.13:25 170.67 n/a .000
08715 SIM= 5.0 01:R4 140.66 .772 2007.0720.13:35 172.98 n/a .000
08716 R2007-C00030-----Dtain-ID-BYHD-----AREBA-QPEARqms-TpeakDate_hh:mm-----RvMm-R.C-----DWPFms
ROUTE CHANNEL > 5.0 02:R5 140.66 .772 2007.0720.13:35 172.98 n/a .000
08717 [RDT= 5.00] out= 5.0 01:R5 140.66 .772 2007.0720.13:35 172.98 n/a .000
08718 [L/S= 181 / .500/.035]
08719 [Vmax .598]
08720
08721 R2007-C00031-----Dtain-ID-BYHD-----AREBA-QPEARqms-TpeakDate_hh:mm-----RvMm-R.C-----DWPFms
CONTINUOUS STANBYD 5.0 01:SOUHT-3 7.98 .052 2007.0720.11:30 171.09 .311 .000
08722 [Ch 48.4# N= 3.001 Tpe= 1.68]
08723 [IAREC 6.00 SMIN=141.94 SMAX=946.27: EK= .030]
08724 InterVntTime= 12.00]
08725
08726 R2007-C00032-----Dtain-ID-BYHD-----AREBA-QPEARqms-TpeakDate_hh:mm-----RvMm-R.C-----DWPFms
ADD HYD 5.0 02:R5 140.66 .772 2007.0720.13:35 172.98 n/a .000
08727 + 5.0 02:R4 140.66 .772 2007.0720.13:30 172.98 n/a .000
08728 SIM= 5.0 01:Total 163.63 .899 2007.0720.13:30 172.68 n/a .000
08729
08730 R2007-C00033-----Dtain-ID-BYHD-----AREBA-QPEARqms-TpeakDate_hh:mm-----RvMm-R.C-----DWPFms
SAVE HYD 5.0 01:R6 148.64 .819 2007.0720.13:25 172.88 n/a .000
08731 [L/S= 223 / .440/.035]
08732 [Vmax .632]
08733
08734 R2007-C00034-----Dtain-ID-BYHD-----AREBA-QPEARqms-TpeakDate_hh:mm-----RvMm-R.C-----DWPFms
ROUTE CHANNEL > 5.0 01:R6 148.64 .819 2007.0720.13:25 172.88 n/a .000
08735 [RDT= 5.00] out= 5.0 01:R6 148.64 .819 2007.0720.13:35 172.88 n/a .000
08736 [L/S= 223 / .440/.035]
08737 [Vmax .632]
08738
08739 R2007-C00035-----Dtain-ID-BYHD-----AREBA-QPEARqms-TpeakDate_hh:mm-----RvMm-R.C-----DWPFms
CONTINUOUS STANBYD 5.0 01:SOUHT-4 14.99 .082 2007.0720.11:45 170.87 .310 .000
08740 [Ch 39.5# N= 3.001 Tpe= 1.23]
08741 [IAREC 6.00 SMIN=168.62 SMAX=*****: EK= .030]
08742 InterVntTime= 12.00]
08743
08744 R2007-C00036-----Dtain-ID-BYHD-----AREBA-QPEARqms-TpeakDate_hh:mm-----RvMm-R.C-----DWPFms
ADD HYD 5.0 02:R6 148.64 .819 2007.0720.13:35 172.88 n/a .000
08745 + 5.0 02:SOUHT-4 14.99 .082 2007.0720.11:45 170.87 n/a .000
08746 SIM= 5.0 01:Total 163.63 .899 2007.0720.13:30 172.68 n/a .000
08747
08748 =====
08749 =====
08750 =====
08751 =====
08752 =====
08753 =====
08754 =====
08755 =====
08756 =====
08757 =====
08758 R2007-C00002-----Dtain-ID-BYHD-----AREBA-QPEARqms-TpeakDate_hh:mm-----RvMm-R.C-----DWPFms
FINISH
08759
08760
08761
08762
08763
08764 R1967-C00002 READ A&S DATA
08765 ** WARNING: Requested start date is less than start date in file.
08766 R1967-C00001 CONTINUOUS STANBYD
08767 ** WARNING: Storage Coefficient is smaller than DT: Use a smaller DT or a larger area.
08768 ** WARNING: Storage Coefficient is smaller than DT: Use a smaller DT or a larger area.
08769 R1967-C00002 READ A&S DATA
08770 ** WARNING: Missing rainfall increments were set to 0.
08771 R1967-C00001 CONTINUOUS STANBYD
08772 ** WARNING: Storage Coefficient is smaller than DT: Use a smaller DT or a larger area.
08773 R1970-C00002 READ A&S DATA
08774 ** WARNING: Missing rainfall increments were set to 0.
08775 R1970-C00012 CONTINUOUS STANBYD
08776 ** WARNING: Storage Coefficient is smaller than DT: Use a smaller DT or a larger area.
08777 ** WARNING: Storage Coefficient is smaller than DT: Use a smaller DT or a larger area.
08778 ** WARNING: Storage Coefficient is smaller than DT: Use a smaller DT or a larger area.
08779 ** WARNING: Storage Coefficient is smaller than DT: Use a smaller DT or a larger area.
08780 R1974-C00002 READ A&S DATA
08781 ** WARNING: Missing rainfall increments were set to 0.
08782 R1974-C00012 CONTINUOUS STANBYD
08783 ** WARNING: Storage Coefficient is smaller than DT: Use a smaller DT or a larger area.
08784 R1975-C00002 READ A&S DATA
08785 ** WARNING: Requested start date is less than start date in file.
08786 R1975-C00012 CONTINUOUS STANBYD
08787 ** WARNING: Storage Coefficient is smaller than DT: Use a smaller DT or a larger area.
08788 R1976-C00002 READ A&S DATA
08789 ** WARNING: Missing rainfall increments were set to 0.
08790 R1976-C00012 CONTINUOUS STANBYD
08791 ** WARNING: Storage Coefficient is smaller than DT: Use a smaller DT or a larger area.
08792 ** NOTE: The pervious area has no runoff.
08793 R1977-C00002 READ A&S DATA
08794 ** WARNING: Missing rainfall increments were set to 0.
08795 R1977-C00012 CONTINUOUS STANBYD
08796 ** WARNING: Storage Coefficient is smaller than DT: Use a smaller DT or a larger area.
08797 R1978-C00002 READ A&S DATA
08798 ** WARNING: Missing rainfall increments were set to 0.
08799 R1978-C00012 CONTINUOUS STANBYD
08800 ** WARNING: Storage Coefficient is smaller than DT: Use a smaller DT or a larger area.
08801 ** WARNING: Storage Coefficient is smaller than DT: Use a smaller DT or a larger area.
08802 R1980-C00002 READ A&S DATA
08803 ** WARNING: Missing rainfall increments were set to 0.
08804 R1980-C00012 CONTINUOUS STANBYD
08805 ** WARNING: Storage Coefficient is smaller than DT: Use a smaller DT or a larger area.
08806 ** NOTE: The pervious area has no runoff.
08807 R1981-C00002 READ A&S DATA
08808 ** WARNING: Missing rainfall increments were set to 0.
08809 R1981-C00012 CONTINUOUS STANBYD
08810 ** WARNING: Storage Coefficient is smaller than DT: Use a smaller DT or a larger area.
08811 R1982-C00002 READ A&S DATA
08812 ** WARNING: Missing rainfall increments were set to 0.
08813 R1982-C00012 CONTINUOUS STANBYD
08814 ** WARNING: Storage Coefficient is smaller than DT: Use a smaller DT or a larger area.
08815 R1983-C00002 READ A&S DATA
08816 ** WARNING: Missing rainfall increments were set to 0.
08817 R1983-C00012 CONTINUOUS STANBYD
08818 ** WARNING: Storage Coefficient is smaller than DT: Use a smaller DT or a larger area.
08819 ** NOTE: The pervious area has no runoff.
08820 R1984-C00002 READ A&S DATA
08821 *** WARNING: Requested start date is less than start date in file.
08822 *** WARNING: Missing rainfall increments were set to 0.
08823 R1984-C00012 CONTINUOUS STANBYD
08824 *** WARNING: Storage Coefficient is smaller than DT: Use a smaller DT or a larger area.
08825 R1984-C00002 READ A&S DATA
08826 *** WARNING: Missing rainfall increments were set to 0.
08827 R1984-C00012 CONTINUOUS STANBYD
08828 *** WARNING: Storage Coefficient is smaller than DT: Use a smaller DT or a larger area.
08829 R1986-C00002 READ A&S DATA
08830 *** WARNING: Missing rainfall increments were set to 0.
08831 R1986-C00012 CONTINUOUS STANBYD
08832 *** WARNING: Storage Coefficient is smaller than DT: Use a smaller DT or a larger area.
08833 R1987-C00002 READ A&S DATA
08834 *** WARNING: Missing rainfall increments were set to 0.
08835 R1987-C00012 CONTINUOUS STANBYD
08836 *** WARNING: Storage Coefficient is smaller than DT: Use a smaller DT or a larger area.
08837 R1988-C00002 READ A&S DATA
08838 *** WARNING: Missing rainfall increments were set to 0.
08839 R1988-C00012 CONTINUOUS STANBYD
08840 *** WARNING: Storage Coefficient is smaller than DT: Use a smaller DT or a larger area.
08841 R1989-C00002 READ A&S DATA
08842 *** WARNING: Missing rainfall increments were set to 0.
08843 R1989-C00012 CONTINUOUS STANBYD
08844 *** WARNING: Storage Coefficient is smaller than DT: Use a smaller DT or a larger area.
08845 R1990-C00002 READ A&S DATA
08846 R1991-C00002 READ A&S DATA
08847 *** WARNING: Missing rainfall increments were set to 0.
08848 R1991-C00012 CONTINUOUS STANBYD
08849 *** WARNING: Storage Coefficient is smaller than DT: Use a smaller DT or a larger area.
08850 ** NOTE: The pervious area has no runoff.
08851 R1991-C00002 READ A&S DATA
08852 *** WARNING: Missing rainfall increments were set to 0.
08853 R1991-C00012 CONTINUOUS STANBYD
08854 *** WARNING: Storage Coefficient is smaller than DT: Use a smaller DT or a larger area.
08855 R1992-C00002 READ A&S DATA
08856 R1994-C00002 READ A&S DATA
08857 *** WARNING: Missing rainfall increments were set to 0.
08858 R1994-C00012 CONTINUOUS STANBYD
08859 *** WARNING: Storage Coefficient is smaller than DT: Use a smaller DT or a larger area.
08860 R1995-C00002 READ A&S DATA
08861 *** WARNING: Missing rainfall increments were set to 0.
08862 R1995-C00012 CONTINUOUS STANBYD
08863 *** WARNING: Storage Coefficient is smaller than DT: Use a smaller DT or a larger area.
08864 R1996-C00002 READ A&S DATA
08865 *** WARNING: Requested start date is less than start date in file.
08866 *** WARNING: Missing rainfall increments were set to 0.
08867 R1996-C00012 CONTINUOUS STANBYD
08868 *** WARNING: Storage Coefficient is smaller than DT: Use a smaller DT or a larger area.
08869 R1997-C00002 READ A&S DATA
08870 *** WARNING: Missing rainfall increments were set to 0.
08871 R1997-C00012 CONTINUOUS STANBYD
08872 *** WARNING: Storage Coefficient is smaller than DT: Use a smaller DT or a larger area.
08873 ** NOTE: The pervious area has no runoff.
08874 R1998-C00002 READ A&S DATA
08875 *** WARNING: Requested start date is less than start date in file.
08876 *** WARNING: Missing rainfall increments were set to 0.
08877 R1998-C00012 CONTINUOUS STANBYD
08878 *** WARNING: Storage Coefficient is smaller than DT: Use a smaller DT or a larger area.
08879 R1999-C00002 READ A&S DATA
08880 *** WARNING: Requested start date is less than start date in file.
08881 *** WARNING: Missing rainfall increments were set to 0.
08882 R1999-C00012 CONTINUOUS STANBYD
08883 *** WARNING: Storage Coefficient is smaller than DT: Use a smaller DT or a larger area.
08884 R2000-C00002 READ A&S DATA
08885 *** WARNING: Missing rainfall increments were set to 0.
08886 R2000-C00012 CONTINUOUS STANBYD
08887 *** WARNING: Storage Coefficient is smaller than DT: Use a smaller DT or a larger area.
08888 R2004-C00002 READ A&S DATA
08889 *** WARNING: Requested start date is less than start date in file.
08890 *** WARNING: Missing rainfall increments were set to 0.
08891 R2004-C00012 CONTINUOUS STANBYD
08892 *** WARNING: Storage Coefficient is smaller than DT: Use a smaller DT or a larger area.
08893 R2004-C00002 READ A&S DATA
08894 *** WARNING: Requested start date is less than start date in file.
08895 R2004-C00012 CONTINUOUS STANBYD
08896 R2005-C00012 CONTINUOUS STANBYD
08897 *** WARNING: Storage Coefficient is smaller than DT: Use a smaller DT or a larger area.
08898 R2004-C00002 READ A&S DATA
08899 *** WARNING: Requested start date is less than start date in file.
08900 *** WARNING: Missing rainfall increments were set to 0.
08901 R2004-C00012 CONTINUOUS STANBYD
08902 *** WARNING: Storage Coefficient is smaller than DT: Use a smaller DT or a larger area.
08903 R2006-C00002 READ A&S DATA
08904 *** WARNING: Requested start date is less than start date in file.
08905 R2006-C00012 CONTINUOUS STANBYD
08906 R2006-C00012 CONTINUOUS STANBYD
08907 *** WARNING: Storage Coefficient is smaller than DT: Use a smaller DT or a larger area.
08908 R2007-C00002 READ A&S DATA
08909 *** WARNING: Missing rainfall increments were set to 0.
08910 R2007-C00012 CONTINUOUS STANBYD
08911 *** WARNING: Storage Coefficient is smaller than DT: Use a smaller DT or a larger area.
08912 Simulation ended on 2024-07-31 at 20:04:18
08913 =====
08914 =====

```



# Appendix D

## Oil and Grit Separators

### Detailed Stormceptor Sizing Report – WS-1-39

| Project Information & Location |                               |                            |                     |
|--------------------------------|-------------------------------|----------------------------|---------------------|
| <b>Project Name</b>            | 6160 Thunder Rd.              | <b>Project Number</b>      | 200578              |
| <b>City</b>                    | Ottawa                        | <b>State/ Province</b>     | Ontario             |
| <b>Country</b>                 | Canada                        | <b>Date</b>                | 5/17/2023           |
| Designer Information           |                               | EOR Information (optional) |                     |
| <b>Name</b>                    | Brandon O'Leary               | <b>Name</b>                | Virginia Johnson    |
| <b>Company</b>                 | Rinker                        | <b>Company</b>             | LRL Associates Ltd. |
| <b>Phone #</b>                 | 905-630-0359                  | <b>Phone #</b>             | 613-915-9503        |
| <b>Email</b>                   | brandon.oleary@rinkerpipe.com | <b>Email</b>               | vjohnson@lrl.ca     |

#### Stormwater Treatment Recommendation

The recommended Stormceptor Model(s) which achieve or exceed the user defined water quality objective for each site within the project are listed in the below Sizing Summary table.

|   |                                  |
|---|----------------------------------|
| <b>Site Name</b>                        | WS-1-39                          |
| <b>Recommended Stormceptor Model</b>    | EFO6                             |
| <b>TSS Removal (%) Provided</b>         | 83                               |
| <b>Particle Size Distribution (PSD)</b> | Fine Distribution                |
| <b>Rainfall Station</b>                 | OTTAWA MACDONALD-CARTIER INT'L A |

The recommended Stormceptor model achieves the water quality objectives based on the selected inputs, historical rainfall records and selected particle size distribution.

| EFO Sizing Summary   |                        |                                   |   |
|----------------------|------------------------|-----------------------------------|---|
| EFO Model            | % TSS Removal Provided | % Runoff Volume Captured Provided | Standard EFO Hydrocarbon Storage Capacity |
| EFO4                 | 72                     | 88                                | 265 L (70 gal)                            |
| <b>EFO6</b>          | <b>83</b>              | <b>99</b>                         | <b>610 L (160 gal)</b>                    |
| EFO8                 | 88                     | 99                                | 1070 L (280 gal)                          |
| EFO10                | 91                     | 99                                | 1670 L (440 gal)                          |
| EFO12                | 97                     | 99                                | 2475 L (655 gal)                          |
| Parallel Units / MAX | Custom                 | Custom                            | Custom                                    |

**For Stormceptor Specifications and Drawings Please Visit:**  
<http://www.imbriumsystems.com/technical-specifications>

## OVERVIEW

**Stormceptor® EF** is a continuation and evolution of the most globally recognized oil-grit separator (OGS) stormwater treatment technology - **Stormceptor®**. Also known as a hydrodynamic separator, the enhanced flow Stormceptor EF is a high performing oil-grit separator that effectively removes a wide variety of pollutants from stormwater and snowmelt runoff at higher flow rates as compared to the original Stormceptor. Stormceptor EF captures and retains sediment (TSS), free oils, gross pollutants and other pollutants that attach to particles, such as nutrients and metals. Stormceptor EF's patent-pending treatment and scour prevention technology and internal bypass ensures sediment is retained during all rainfall events.

## Design Methodology

Stormceptor is sized using PCSWMM for Stormceptor, a continuous simulation model based on US EPA SWMM. The program calculates hydrology using local historical rainfall data and specified site parameters. With US EPA SWMM's precision, every Stormceptor unit is designed to achieve a defined water quality objective. The TSS removal data presented follows US EPA guidelines to reduce the average annual TSS load. The Stormceptor's unit process for TSS removal is settling. The settling model calculates TSS removal by analyzing:

- Site parameters
- Continuous historical rainfall data, including duration, distribution, peaks & inter-event dry periods
- Particle size distribution, and associated settling velocities (Stokes Law, corrected for drag)
- TSS load
- Detention time of the system

| Hydrology Analysis   |  |
|--|--|
| PCSWMM for Stormceptor calculates annual hydrology with the US EPA SWMM and local continuous historical rainfall data. Performance calculations of Stormceptor are based on the average annual removal of TSS for the selected site parameters. The Stormceptor is engineered to capture sediment particles by treating the required average annual runoff volume, ensuring positive removal efficiency is maintained during each rainfall event, and preventing negative removal efficiency (scour). Smaller recurring storms account for the majority of rainfall events and average annual runoff volume, as observed in the historical rainfall data analyses presented in this section. |  |

| Rainfall Station              |                                  |   |         |
|-------------------------------|----------------------------------|---|---------|
| <b>State/Province</b>         | Ontario                          | <b>Total Number of Rainfall Events</b>    | 4093    |
| <b>Rainfall Station Name</b>  | OTTAWA MACDONALD-CARTIER INT'L A | <b>Total Rainfall (mm)</b>                | 20978.1 |
| <b>Station ID #</b>           | 6000                             | <b>Average Annual Rainfall (mm)</b>       | 567.0   |
| <b>Coordinates</b>            | 45°19'N, 75°40'W                 | <b>Total Evaporation (mm)</b>             | 1657.0  |
| <b>Elevation (ft)</b>         | 370                              | <b>Total Infiltration (mm)</b>            | 5442.4  |
| <b>Years of Rainfall Data</b> | 37                               | <b>Total Rainfall that is Runoff (mm)</b> | 13878.7 |

| Notes  |  |
|--|--|
| <ul style="list-style-type: none"> <li>• Stormceptor performance estimates are based on simulations using PCSWMM for Stormceptor, which uses the EPA Rainfall and Runoff modules.</li> <li>• Design estimates listed are only representative of specific project requirements based on total suspended solids (TSS) removal defined by the selected PSD, and based on stable site conditions only, after construction is completed.</li> <li>• For submerged applications or sites specific to spill control, please contact your local Stormceptor representative for further design assistance.</li> </ul> |  |

## ONLINE APPLICATION

Stormceptor EF's internal bypass and patent-pending scour prevention technology has demonstrated very effective retention of pollutants in third-party testing and verification following the Canadian ETV's **Procedure for Laboratory Testing of Oil-Grit Separators**. Sediment scour prevention demonstrated an effluent concentration of less than 10 mg/L for sediment particles ranging from 1 to 1,000 microns, even during peak influent flow rates associated with infrequent high intensity storm events. While Stormceptor EF will capture oil, only the Stormceptor EFO configuration has been third-party tested and verified to retain greater than 99% of captured oil. Based on these verified performance attributes, the most efficient and widely accepted application of Stormceptor EF is an online configuration, which allows all upstream conveyance flows to enter and exit the unit. The online application eliminates the need for costly additional bypass structures, piping and installation expense.

## FLOW ENTRANCE OPTIONS

**Single Inlet Pipe** – A common design which includes one inlet pipe and one outlet pipe. A 90-degree (maximum) bend is also accepted with this configuration.

**Inlet Grate** – Allows surface runoff to enter the unit from grade. The inlet grate option can also be used in conjunction with one inlet pipe or multiple inlet pipes. A removable flow deflector is added in the Stormceptor EF4/EFO4.

| Maximum Pipe Diameter |               |                |
|-----------------------|---------------|----------------|
| Model                 | Inlet (in/mm) | Outlet (in/mm) |
| EF4 / EFO4            | 24 / 610      | 24 / 610       |
| EF6 / EFO6            | 36 / 915      | 36 / 915       |
| EF8 / EFO8            | 48 / 1220     | 48 / 1220      |
| EF10 / EFO10          | 72 / 1828     | 72 / 1828      |
| EF12 / EFO12          | 72 / 1828     | 72 / 1828      |

**Multiple Inlet Pipe** – Allows for multiple inlet pipes of various diameters to enter the unit.

| Maximum Pipe Diameter |               |                |
|-----------------------|---------------|----------------|
| Model                 | Inlet (in/mm) | Outlet (in/mm) |
| EF4 / EFO4            | 18 / 457      | 24 / 610       |
| EF6 / EFO6            | 30 / 762      | 36 / 915       |
| EF8 / EFO8            | 42 / 1067     | 48 / 1220      |
| EF10 / EFO10          | 60 / 1524     | 72 / 1828      |
| EF12 / EFO12          | 60 / 1524     | 72 / 1828      |

| Drainage Area    |       | Up Stream Storage |                 |
|------------------|-------|-------------------|-----------------|
| Total Area (ha)  | 10.00 | Storage (ha-m)    | Discharge (cms) |
| Imperviousness % | 74.00 | 0.0000            | 0.000           |
|                  |       | 0.2061            | 0.022           |
|                  |       | 0.3279            | 0.026           |
|                  |       | 0.5930            | 0.032           |

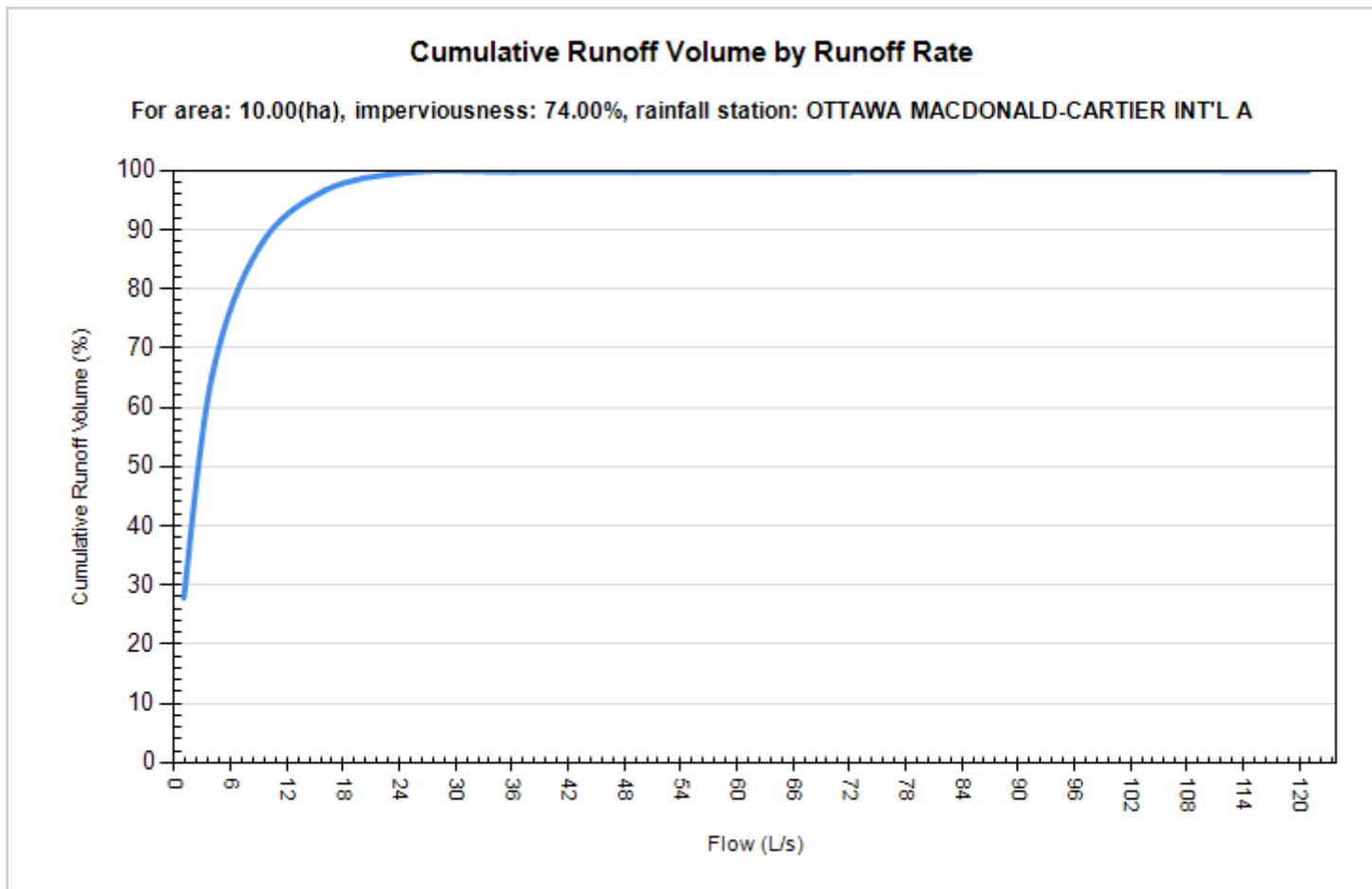
| Up Stream Flow Diversion       |  | Design Details                     |    |
|--------------------------------|--|------------------------------------|----|
| Max. Flow to Stormceptor (cms) |  | Stormceptor Inlet Invert Elev (m)  |    |
|                                |  | Stormceptor Outlet Invert Elev (m) |    |
|                                |  | Stormceptor Rim Elev (m)           |    |
|                                |  | Normal Water Level Elevation (m)   |    |
|                                |  | Pipe Diameter (mm)                 |    |
|                                |  | Pipe Material                      |    |
|                                |  | Multiple Inlets (Y/N)              | No |
|                                |  | Grate Inlet (Y/N)                  | No |

| Water Quality Objective       |       |
|-------------------------------|-------|
| TSS Removal (%)               | 80.0  |
| Runoff Volume Capture (%)     | 90.00 |
| Oil Spill Capture Volume (L)  |       |
| Peak Conveyed Flow Rate (L/s) | 32.00 |
| Water Quality Flow Rate (L/s) | 20.00 |

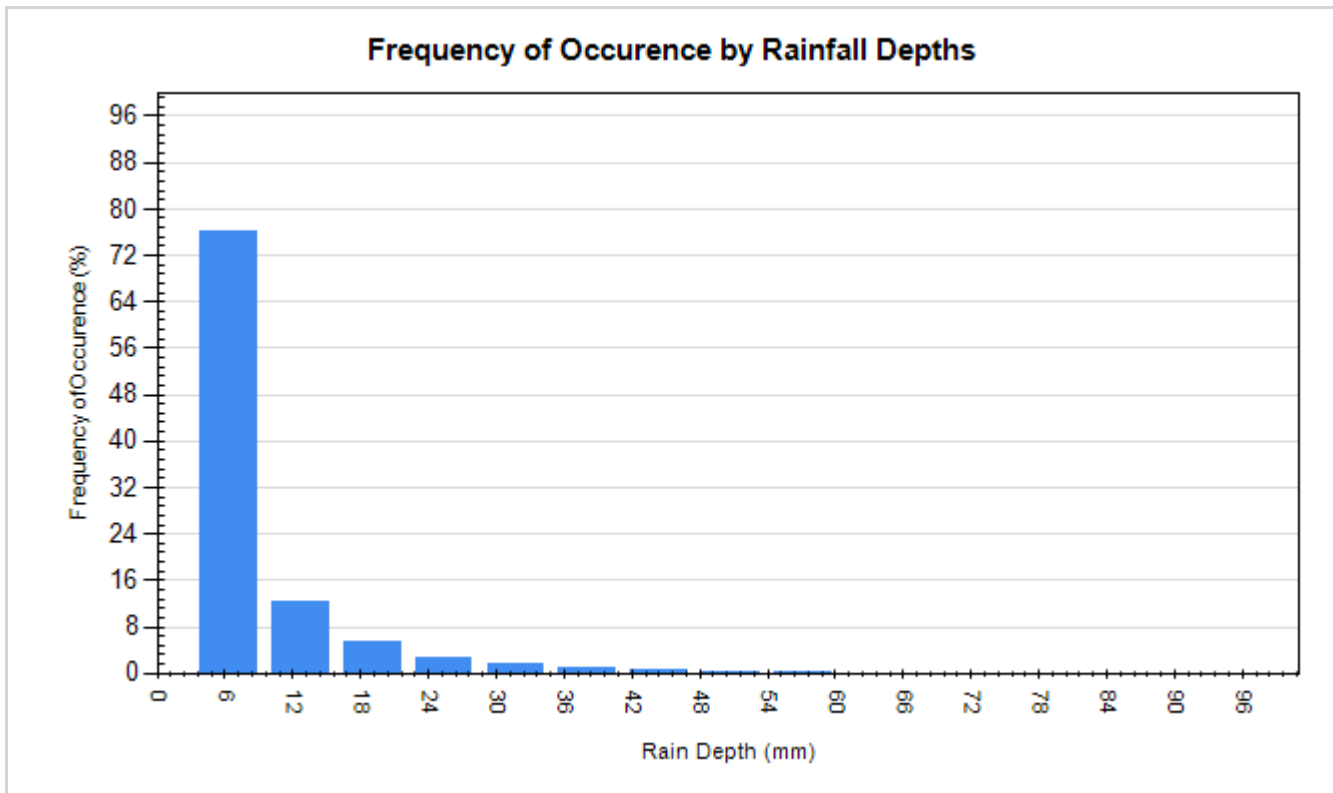
| Particle Size Distribution (PSD)  |                |                  |
|---|----------------|------------------|
| Removing the smallest fraction of particulates from runoff ensures the majority of pollutants, such as metals, hydrocarbons and nutrients are captured. The table below identifies the Particle Size Distribution (PSD) that was selected to define TSS removal for the Stormceptor design. |                |                  |
| Fine Distribution   |                |                  |
| Particle Diameter (microns)   | Distribution % | Specific Gravity |
| 20.0  | 20.0           | 1.30             |
| 60.0  | 20.0           | 1.80             |
| 150.0   | 20.0           | 2.20             |
| 400.0   | 20.0           | 2.65             |
| 2000.0  | 20.0           | 2.65             |

|                                    |        |  |         |
|------------------------------------|--------|--|---------|
| <b>Site Name</b>                   |        | WS-1-39  |         |
| <b>Site Details</b>                |        |  |         |
| <b>Drainage Area</b>               |        | <b>Infiltration Parameters</b>                       |         |
| Total Area (ha)                    | 10.00  | Horton's equation is used to estimate infiltration   |         |
| Imperviousness %                   | 74.00  | Max. Infiltration Rate (mm/hr)                       | 61.98   |
| Oil Spill Capture Volume (L)       |        | Min. Infiltration Rate (mm/hr)                       | 10.16   |
|                                    |        | Decay Rate (1/sec)                                   | 0.00055 |
|                                    |        | Regeneration Rate (1/sec)                            | 0.01    |
| <b>Surface Characteristics</b>     |        | <b>Evaporation</b>                                   |         |
| Width (m)                          | 632.00 | Daily Evaporation Rate (mm/day)                      | 2.54    |
| Slope %                            | 2      | <b>Dry Weather Flow</b>                              |         |
| Impervious Depression Storage (mm) | 0.508  | Dry Weather Flow (L/s)                               | 0       |
| Pervious Depression Storage (mm)   | 5.08   |  |         |
| Impervious Manning's n             | 0.015  |  |         |
| Pervious Manning's n               | 0.25   |  |         |
| <b>Maintenance Frequency</b>       |        | <b>Winter Months</b>                                 |         |
| Maintenance Frequency (months) >   | 12     | Winter Infiltration                                  | 0       |
| <b>TSS Loading Parameters</b>      |        |  |         |
| TSS Loading Function               |        | Build Up/ Wash-off                                   |         |
| <b>Buildup/Wash-off Parameters</b> |        | <b>TSS Availability Parameters</b>                   |         |
| Target Event Mean Conc. (EMC) mg/L | 125    | Availability Constant A                              | 0.057   |
| Exponential Buildup Power          | 0.40   | Availability Factor B                                | 0.04    |
| Exponential Washoff Exponent       | 0.20   | Availability Exponent C                              | 1.10    |
|                                    |        | Min. Particle Size Affected by Availability (micron) | 400     |

| Cumulative Runoff Volume by Runoff Rate |                    |                  |                              |
|---|--------------------|------------------|------------------------------|
| Runoff Rate (L/s)                       | Runoff Volume (m³) | Volume Over (m³) | Cumulative Runoff Volume (%) |
| 1                                       | 386840             | 1004826          | 27.8                         |
| 4                                       | 906169             | 490108           | 65.2                         |
| 9                                       | 1208098            | 182261           | 86.9                         |
| 16                                      | 1343630            | 47577            | 96.6                         |
| 25                                      | 1385946            | 4655             | 99.7                         |
| 36                                      | 1388007            | 2542             | 99.8                         |
| 49                                      | 1388159            | 2390             | 99.8                         |
| 64                                      | 1388327            | 2221             | 99.8                         |
| 81                                      | 1388509            | 2034             | 99.9                         |
| 100                                     | 1388707            | 1836             | 99.9                         |
| 121                                     | 1388907            | 1634             | 99.9                         |



| Rainfall Event Analysis |               |                                |                   |                                 |
|-------------------------|---------------|--------------------------------|-------------------|---------------------------------|
| Rainfall Depth (mm)     | No. of Events | Percentage of Total Events (%) | Total Volume (mm) | Percentage of Annual Volume (%) |
| 6.35                    | 3113          | 76.1                           | 5230              | 24.9                            |
| 12.70                   | 501           | 12.2                           | 4497              | 21.4                            |
| 19.05                   | 225           | 5.5                            | 3469              | 16.5                            |
| 25.40                   | 105           | 2.6                            | 2317              | 11.0                            |
| 31.75                   | 62            | 1.5                            | 1765              | 8.4                             |
| 38.10                   | 35            | 0.9                            | 1206              | 5.8                             |
| 44.45                   | 28            | 0.7                            | 1163              | 5.5                             |
| 50.80                   | 12            | 0.3                            | 557               | 2.7                             |
| 57.15                   | 7             | 0.2                            | 378               | 1.8                             |
| 63.50                   | 1             | 0.0                            | 63                | 0.3                             |
| 69.85                   | 1             | 0.0                            | 64                | 0.3                             |
| 76.20                   | 1             | 0.0                            | 76                | 0.4                             |
| 82.55                   | 0             | 0.0                            | 0                 | 0.0                             |
| 88.90                   | 1             | 0.0                            | 84                | 0.4                             |
| 95.25                   | 0             | 0.0                            | 0                 | 0.0                             |
| 101.60                  | 0             | 0.0                            | 0                 | 0.0                             |





Stormceptor® EF Sizing Report

| <b>Imbrium® Systems</b>   |                          | <b>ESTIMATED NET ANNUAL SEDIMENT (TSS) LOAD REDUCTION</b>   |                               | 08/13/2024 |  |  |                   |                          |      |    |      |     |      |     |       |     |       |     |
|---|--------------------------|---|-------------------------------|------------|--|--|-------------------|--------------------------|------|----|------|-----|------|-----|-------|-----|-------|-----|
| Province:   | Ontario                  | Project Name:   | 6160 Thunder Rd.              |            |  |  |                   |                          |      |    |      |     |      |     |       |     |       |     |
| City:   | Ottawa                   | Project Number:   | 200578                        |            |  |  |                   |                          |      |    |      |     |      |     |       |     |       |     |
| Nearest Rainfall Station:   | OTTAWA CDA RCS           | Designer Name:  | Brandon O'Leary               |            |  |  |                   |                          |      |    |      |     |      |     |       |     |       |     |
| Climate Station Id:   | 6105978                  | Designer Company:   | Rinker                        |            |  |  |                   |                          |      |    |      |     |      |     |       |     |       |     |
| Years of Rainfall Data:   | 20                       | Designer Email:   | brandon.oleary@rinkerpipe.com |            |  |  |                   |                          |      |    |      |     |      |     |       |     |       |     |
| Site Name:  | WS-40                    | Designer Phone:   | 905-630-0359                  |            |  |  |                   |                          |      |    |      |     |      |     |       |     |       |     |
| Drainage Area (ha):   | 1.23                     | EOR Name:   | Virginia Johnson              |            |  |  |                   |                          |      |    |      |     |      |     |       |     |       |     |
| Runoff Coefficient 'c':   | 0.74                     | EOR Company:  | LRL Associates Ltd.           |            |  |  |                   |                          |      |    |      |     |      |     |       |     |       |     |
| Particle Size Distribution:   | Fine                     | EOR Email:  | vjohnson@lrl.ca               |            |  |  |                   |                          |      |    |      |     |      |     |       |     |       |     |
| Target TSS Removal (%):   | 80.0                     | EOR Phone:  | 613-915-9503                  |            |  |  |                   |                          |      |    |      |     |      |     |       |     |       |     |
| Required Water Quality Runoff Volume Capture (%):   | 90.0                     | <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2" style="text-align: center;"><b>Net Annual Sediment (TSS) Load Reduction Sizing Summary</b></th> </tr> <tr> <th style="width: 50%;">Stormceptor Model</th> <th style="width: 50%;">TSS Removal Provided (%)</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">EFO4</td> <td style="text-align: center;">94</td> </tr> <tr> <td style="text-align: center;">EFO6</td> <td style="text-align: center;">100</td> </tr> <tr> <td style="text-align: center;">EFO8</td> <td style="text-align: center;">100</td> </tr> <tr> <td style="text-align: center;">EFO10</td> <td style="text-align: center;">100</td> </tr> <tr> <td style="text-align: center;">EFO12</td> <td style="text-align: center;">100</td> </tr> </tbody> </table> |                               |            | <b>Net Annual Sediment (TSS) Load Reduction Sizing Summary</b> |  | Stormceptor Model | TSS Removal Provided (%) | EFO4 | 94 | EFO6 | 100 | EFO8 | 100 | EFO10 | 100 | EFO12 | 100 |
| <b>Net Annual Sediment (TSS) Load Reduction Sizing Summary</b>  |                          |   |                               |            |  |  |                   |                          |      |    |      |     |      |     |       |     |       |     |
| Stormceptor Model   | TSS Removal Provided (%) |   |                               |            |  |  |                   |                          |      |    |      |     |      |     |       |     |       |     |
| EFO4  | 94                       |   |                               |            |  |  |                   |                          |      |    |      |     |      |     |       |     |       |     |
| EFO6  | 100                      |   |                               |            |  |  |                   |                          |      |    |      |     |      |     |       |     |       |     |
| EFO8  | 100                      |   |                               |            |  |  |                   |                          |      |    |      |     |      |     |       |     |       |     |
| EFO10   | 100                      |   |                               |            |  |  |                   |                          |      |    |      |     |      |     |       |     |       |     |
| EFO12   | 100                      |   |                               |            |  |  |                   |                          |      |    |      |     |      |     |       |     |       |     |
| Oil / Fuel Spill Risk Site?   | Yes                      |   |                               |            |  |  |                   |                          |      |    |      |     |      |     |       |     |       |     |
| Upstream Flow Control?  | Yes                      |   |                               |            |  |  |                   |                          |      |    |      |     |      |     |       |     |       |     |
| Upstream Orifice Control Flow Rate to Stormceptor (L/s):  | 4                        |   |                               |            |  |  |                   |                          |      |    |      |     |      |     |       |     |       |     |
| Peak Conveyance (maximum) Flow Rate (L/s):  | 4                        |   |                               |            |  |  |                   |                          |      |    |      |     |      |     |       |     |       |     |
| <p><b>Recommended Stormceptor EFO Model: EFO4</b></p> <p><b>Estimated Net Annual Sediment (TSS) Load Reduction (%): 94</b></p> <p><b>Water Quality Runoff Volume Capture (%): &gt; 90</b></p> |                          |   |                               |            |  |  |                   |                          |      |    |      |     |      |     |       |     |       |     |



Stormceptor® **EF** Sizing Report

**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

Upstream Flow Controlled Results

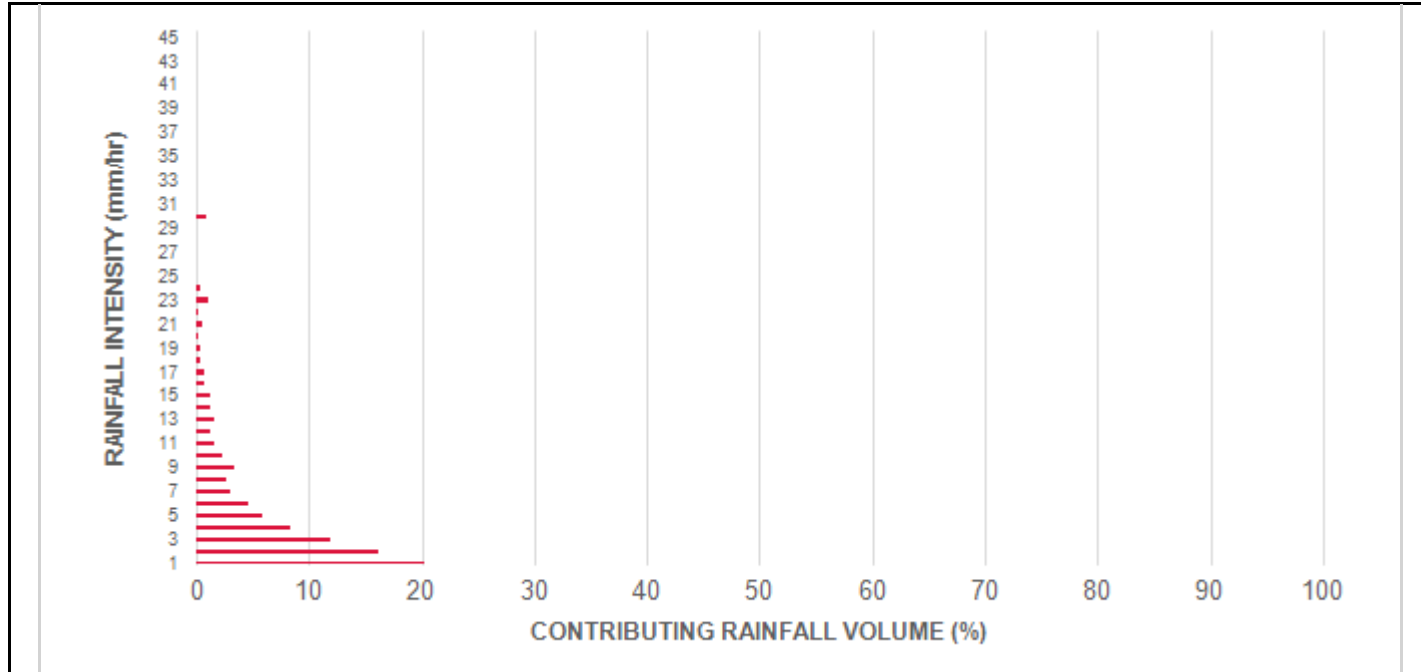
| Rainfall Intensity (mm / hr)                                | Percent Rainfall Volume (%) | Cumulative Rainfall Volume (%) | Flow Rate (L/s) | Flow Rate (L/min) | Surface Loading Rate (L/min/m²) | Removal Efficiency (%) | Incremental Removal (%) | Cumulative Removal (%) |
|---|-----------------------------|--------------------------------|-----------------|-------------------|---------------------------------|------------------------|-------------------------|------------------------|
| 0.50  | 8.6                         | 8.6                            | 1.27            | 76.0              | 63.0                            | 100                    | 8.6                     | 8.6                    |
| 1.00  | 91.4                        | 100.0                          | 2.53            | 152.0             | 127.0                           | 93                     | 85.3                    | 93.9                   |
| 2.00  | 0.0                         | 100.0                          | 4.00            | 240.0             | 200.0                           | 83                     | 0.0                     | 93.9                   |
| 3.00  | 0.0                         | 100.0                          | 4.00            | 240.0             | 200.0                           | 83                     | 0.0                     | 93.9                   |
| 4.00  | 0.0                         | 100.0                          | 4.00            | 240.0             | 200.0                           | 83                     | 0.0                     | 93.9                   |
| 5.00  | 0.0                         | 100.0                          | 4.00            | 240.0             | 200.0                           | 83                     | 0.0                     | 93.9                   |
| 6.00  | 0.0                         | 100.0                          | 4.00            | 240.0             | 200.0                           | 83                     | 0.0                     | 93.9                   |
| 7.00  | 0.0                         | 100.0                          | 4.00            | 240.0             | 200.0                           | 83                     | 0.0                     | 93.9                   |
| 8.00  | 0.0                         | 100.0                          | 4.00            | 240.0             | 200.0                           | 83                     | 0.0                     | 93.9                   |
| 9.00  | 0.0                         | 100.0                          | 4.00            | 240.0             | 200.0                           | 83                     | 0.0                     | 93.9                   |
| 10.00   | 0.0                         | 100.0                          | 4.00            | 240.0             | 200.0                           | 83                     | 0.0                     | 93.9                   |
| 11.00   | 0.0                         | 100.0                          | 4.00            | 240.0             | 200.0                           | 83                     | 0.0                     | 93.9                   |
| 12.00   | 0.0                         | 100.0                          | 4.00            | 240.0             | 200.0                           | 83                     | 0.0                     | 93.9                   |
| 13.00   | 0.0                         | 100.0                          | 4.00            | 240.0             | 200.0                           | 83                     | 0.0                     | 93.9                   |
| 14.00   | 0.0                         | 100.0                          | 4.00            | 240.0             | 200.0                           | 83                     | 0.0                     | 93.9                   |
| 15.00   | 0.0                         | 100.0                          | 4.00            | 240.0             | 200.0                           | 83                     | 0.0                     | 93.9                   |
| 16.00   | 0.0                         | 100.0                          | 4.00            | 240.0             | 200.0                           | 83                     | 0.0                     | 93.9                   |
| 17.00   | 0.0                         | 100.0                          | 4.00            | 240.0             | 200.0                           | 83                     | 0.0                     | 93.9                   |
| 18.00   | 0.0                         | 100.0                          | 4.00            | 240.0             | 200.0                           | 83                     | 0.0                     | 93.9                   |
| 19.00   | 0.0                         | 100.0                          | 4.00            | 240.0             | 200.0                           | 83                     | 0.0                     | 93.9                   |
| 20.00   | 0.0                         | 100.0                          | 4.00            | 240.0             | 200.0                           | 83                     | 0.0                     | 93.9                   |
| 21.00   | 0.0                         | 100.0                          | 4.00            | 240.0             | 200.0                           | 83                     | 0.0                     | 93.9                   |
| 22.00   | 0.0                         | 100.0                          | 4.00            | 240.0             | 200.0                           | 83                     | 0.0                     | 93.9                   |
| 23.00   | 0.0                         | 100.0                          | 4.00            | 240.0             | 200.0                           | 83                     | 0.0                     | 93.9                   |
| 24.00   | 0.0                         | 100.0                          | 4.00            | 240.0             | 200.0                           | 83                     | 0.0                     | 93.9                   |
| 25.00   | 0.0                         | 100.0                          | 4.00            | 240.0             | 200.0                           | 83                     | 0.0                     | 93.9                   |
| 30.00   | 0.0                         | 100.0                          | 4.00            | 240.0             | 200.0                           | 83                     | 0.0                     | 93.9                   |
| 35.00   | 0.0                         | 100.0                          | 4.00            | 240.0             | 200.0                           | 83                     | 0.0                     | 93.9                   |
| 40.00   | 0.0                         | 100.0                          | 4.00            | 240.0             | 200.0                           | 83                     | 0.0                     | 93.9                   |
| 45.00   | 0.0                         | 100.0                          | 4.00            | 240.0             | 200.0                           | 83                     | 0.0                     | 93.9                   |
| <b>Estimated Net Annual Sediment (TSS) Load Reduction =</b> |                             |                                |                 |                   |                                 |                        |                         | <b>94 %</b>            |

Climate Station ID: 6105978 Years of Rainfall Data: 20

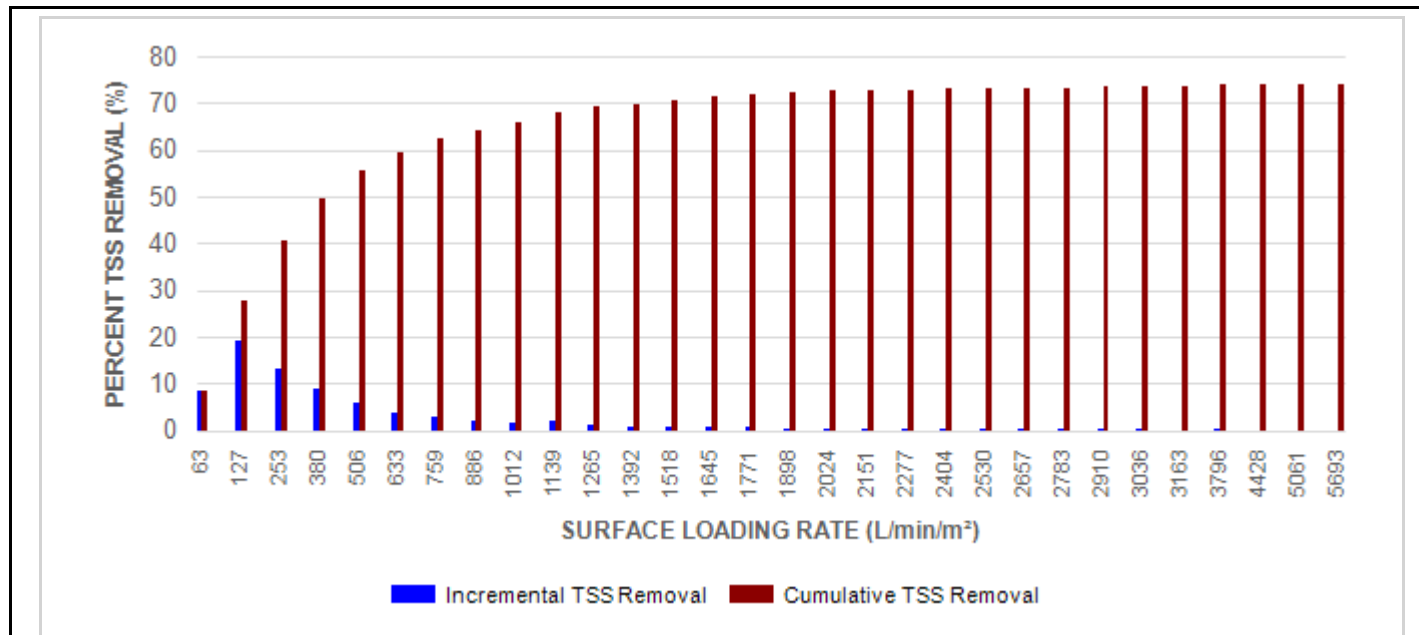


Stormceptor® EF Sizing Report

RAINFALL DATA FROM OTTAWA CDA RCS RAINFALL STATION



INCREMENTAL AND CUMULATIVE TSS REMOVAL FOR THE RECOMMENDED STORMCEPTOR® MODEL



Stormceptor® EF Sizing Report

Maximum Pipe Diameter / Peak Conveyance

| Stormceptor<br>EF / EFO | Model Diameter |      | Min Angle Inlet /<br>Outlet Pipes | Max Inlet Pipe<br>Diameter |      | Max Outlet Pipe<br>Diameter |      | Peak Conveyance<br>Flow Rate |       |
|-------------------------|----------------|------|-----------------------------------|----------------------------|------|-----------------------------|------|------------------------------|-------|
|                         | (m)            | (ft) |                                   | (mm)                       | (in) | (mm)                        | (in) | (L/s)                        | (cfs) |
| EF4 / EFO4              | 1.2            | 4    | 90                                | 609                        | 24   | 609                         | 24   | 425                          | 15    |
| 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**

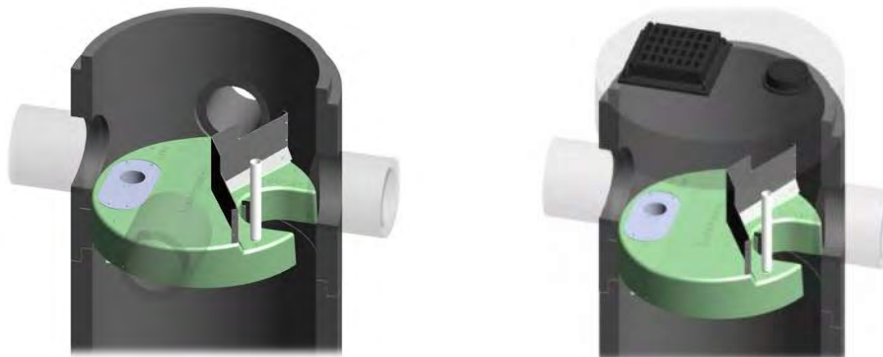
► Stormceptor® EF and EFO feature an internal bypass and superior scour prevention technology that have been demonstrated in third-party testing according to the scour testing provisions of the Canadian ETV **Procedure for Laboratory Testing of Oil-Grit Separators**, and the exceptional scour test performance 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**

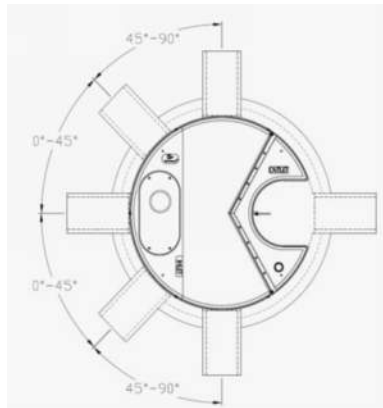
► Stormceptor® EF and EFO offers design flexibility in one simplified platform, accepting stormwater flow from a single inlet pipe or multiple inlet pipes, and/or surface runoff through an inlet grate. The device can also serve as a junction structure, accommodate a 90-degree inlet-to-outlet bend angle, 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.



Stormceptor® EF Sizing Report



**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   |
| 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>



**Stormceptor®**

**Rinker**  
MATERIALS®  
A QUIKRETE® COMPANY

**Stormceptor® EF Sizing Report**



# STANDARD PERFORMANCE SPECIFICATION FOR “OIL GRIT SEPARATOR” (OGS) STORMWATER QUALITY TREATMENT 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 <sup>3</sup> sediment / 265 L oil    |
|       | 6 ft (1829 mm) Diameter OGS Units:  | 3.48 m <sup>3</sup> sediment / 609 L oil    |
|       | 8 ft (2438 mm) Diameter OGS Units:  | 8.78 m <sup>3</sup> sediment / 1,071 L oil  |
|       | 10 ft (3048 mm) Diameter OGS Units: | 17.78 m <sup>3</sup> sediment / 1,673 L oil |
|       | 12 ft (3657 mm) Diameter OGS Units: | 31.23 m <sup>3</sup> 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<sup>2</sup> to 1400 L/min/m<sup>2</sup>, 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<sup>2</sup> and 1400 L/min/m<sup>2</sup> 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<sup>2</sup> shall be assumed to be identical to the sediment removal efficiency at 40 L/min/m<sup>2</sup>. No extrapolation shall be allowed that results in a sediment removal efficiency that is greater than that demonstrated at 40 L/min/m<sup>2</sup>.

3.2.4 Sediment removal efficiency for surface loading rates greater than the highest tested surface loading rate of 1400 L/min/m<sup>2</sup> shall assume zero sediment removal for the portion of flow that exceeds 1400 L/min/m<sup>2</sup>, and shall be calculated using a simple proportioning formula, with 1400 L/min/m<sup>2</sup> 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<sup>2</sup>.

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

## Stormceptor<sup>®</sup> EF Sizing Report

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<sup>2</sup>.

### 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<sup>2</sup> to 2600 L/min/m<sup>2</sup>) 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.

# STANDARD SPECIFICATION FOR “OIL GRIT SEPARATOR” (OGS) STORMWATER QUALITY TREATMENT DEVICE WITH THIRD-PARTY VERIFIED LIGHT LIQUID RE-ENTRAINMENT SIMULATION PERFORMANCE TESTING RESULTS

## PART 1 – GENERAL

### 1.1 WORK INCLUDED

This section specifies requirements for selecting, sizing, designing, maintaining, and constructing an underground Oil Grit Separator (OGS) device for stormwater quality treatment, **specifically an OGS device that has been third-party tested for oil and fuel retention capability using a protocol for light liquid re-entrainment simulation testing, with testing results and a Statement of Verification in accordance with all the provisions of ISO 14034 Environmental Management – Environmental Technology Verification (ETV)**. Work includes supply and installation of concrete bases, precast sections, and the appropriate precast section with OGS internal components correctly installed within the system, watertight sealed to the precast concrete prior to arrival to the project site.

### 1.2 REFERENCE STANDARDS

#### 1.2.1 For Canadian projects only, the following reference standards apply:

CAN/CSA-A257.4-14: Joints for Circular Concrete Sewer and Culvert Pipe, Manhole Sections, and Fittings Using Rubber Gaskets

CAN/CSA-A257.4-14: Precast Reinforced Circular Concrete Manhole Sections, Catch Basins, and Fittings

CAN/CSA-S6-00: Canadian Highway Bridge Design Code

#### 1.2.2 For ALL projects, the following reference standards apply:

ASTM D-4097: Contact Molded Glass Fiber Reinforced Chemical Resistant Tanks

ASTM C 478: Specification for Precast Reinforced Concrete Manhole Sections

ASTM C 443: Specification for Joints for Concrete Pipe and Manholes, Using Rubber Gaskets

ASTM C 891: Standard Practice for Installation of Underground Precast Concrete Utility Structures

ASTM D2563: Standard Practice for Classification of Visual Defects in Reinforced Plastics

### 1.3 SHOP DRAWINGS

1.3.1 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 the precast concrete components and OGS internal components prior to shipment, including the sequence for installation.

1.3.2 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 based on the exact same criteria detailed in Section 3, in entirety, subject to review and approval by the Engineer of Record. Any and all changes to project cost estimates, bonding amounts, plan check fees for revision of approved documents, or design impacts due to regulatory requirements as a result of a product substitution shall be coordinated by the Contractor with the Engineer of Record.

### 1.4 HANDLING AND STORAGE

Prevent damage to materials during storage and handling.

1.4.1 OGS internal components supplied by the Manufacturer for attachment to the precast concrete vessel shall be pre-fabricated, bolted to the precast and watertight sealed to the precast vessel surface prior to site delivery to ensure Manufacturer's internal assembly process and quality control processes are fully adhered to, and to prevent materials damage on site.

1.4.2 Follow all instructions including the sequence for installation in the shop drawings during installation.

## **PART 2 – PRODUCTS**

### **2.1 GENERAL**

2.1.1 The OGS vessel shall be cylindrical and constructed from precast concrete riser and slab components.

2.1.2 The precast concrete OGS internal components shall include a fiberglass insert bolted and watertight sealed inside the precast concrete vessel, prior to site delivery. Primary internal components that are to be anchored and watertight sealed to the precast concrete vessel shall be done so only by the Manufacturer prior to arrival at the job site to ensure product quality.

2.1.3 The OGS shall be allowed to be specified and have the ability to function as a 240-degree bend structure in the stormwater drainage system, or as a junction structure.

2.1.4 The OGS to be specified shall have the capability to accept influent flow from an inlet grate and an inlet pipe.

### **2.2 PRECAST CONCRETE SECTIONS**

All precast concrete components shall be designed and manufactured to meet highway loading conditions per State/Provincial or local requirements.

### **2.3 GASKETS**

Only profile neoprene or nitrile rubber gaskets that are oil resistant shall be accepted. For Canadian projects only, gaskets shall be in accordance to CSA A257.4-14. Mastic sealants, butyl tape/rope or Conseal CS-101 alone are not acceptable gasket materials.

### **2.4 JOINTS**

The concrete joints shall be watertight and meet the design criteria according to ASTM C-990. For projects where joints require gaskets, the concrete joints shall be watertight and oil resistant and meet the design criteria according to ASTM C-443. Mastic sealants or butyl tape/rope alone are not an acceptable alternative.

### **2.5 FRAMES AND COVERS**

Frames and covers shall be manufactured in accordance with State/Provincial or local requirements for inspection and maintenance access purposes. A minimum of one cover, at least 22-inch (560 mm) in diameter, shall be clearly embossed with the OGS manufacturer's product name to properly identify this asset's purpose is for stormwater quality treatment.

### **2.6 PRECAST CONCRETE**

All precast concrete components shall conform to the appropriate CSA or ASTM specifications.

### **2.7 FIBERGLASS**

The fiberglass portion of the OGS device shall be constructed in accordance with ASTM D2563, and in accordance with the PS15-69 manufacturing standard, and shall only be installed, bolted and watertight sealed to the precast concrete by the Manufacturer prior to arrival at the project site to ensure product quality.

## 2.8 OGS POLLUTANT STORAGE

The OGS device shall include a sump for sediment storage, and a fiberglass insert for the capture and storage of petroleum hydrocarbons and buoyant gross pollutants. The total sediment storage capacity shall be a minimum 40 ft<sup>3</sup> (1.1 m<sup>3</sup>). The total petroleum hydrocarbon storage capacity shall be a minimum 50 gallons (189 liters). The access opening to the sump of the OGS device for periodic inspection and maintenance purposes shall be a minimum 16 inches (406 mm) in diameter.

## 2.9 LADDERS

Ladder rungs shall be provided upon request or to comply with State/Provincial or local requirements.

## 2.10 INSPECTION

All precast concrete sections shall be level and inspected to ensure dimensions, appearance, integrity of internal components, and quality of the product meets State/Provincial or local specifications and associated standards.

# **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 HYDROLOGY AND RUNOFF VOLUME

The OGS device shall be engineered, designed and sized to treat a minimum of 90 percent of the average annual runoff volume, unless otherwise stated by the Engineer of Record, using historical rainfall data. Rainfall data sets should be comprised of a minimum 15-years of rainfall data or a longer continuous period if available for a given location, but in all cases a minimum 5-year period of rainfall data.

## 3.3 ANNUAL (TSS) SEDIMENT LOAD AND STORAGE CAPACITY

The OGS device shall be capable of removing and have sufficient storage capacity for the calculated annual total suspended solids (TSS) mass load and volume without scouring previously captured pollutants prior to maintenance being required. The annual (TSS) sediment load and volume transported from the drainage area should be calculated and compared to the OGS device's available storage capacity by the specifying Engineer to ensure adequate capacity between maintenance cycles. Sediment loadings shall be determined by land use and defined as a minimum of 450 kg (992 lb) of sediment (TSS) per impervious hectare of drainage area per year, or greater based on land use, as noted in Table 1 below.

Annual sediment volume calculations shall be performed using the projected average annual treated runoff volume, a typical sediment bulk density of 1602 kg/m<sup>3</sup> (100 lbs/ft<sup>3</sup>) and an assumed Event Mean Concentration (EMC) of 125 mg/L TSS in the runoff, or as otherwise determined by the Engineer of Record.

Example calculation for a 1.3-hectares parking lot site:

- 1.28 meters of rainfall depth, per year
- 1.3 hectares of 100% impervious drainage area
- EMC of 125 mg/L TSS in runoff
- Treatment of 90% of the average annual runoff volume
- Target average annual TSS removal rate of 60% by OGS

Annual Runoff Volume:

- 1.28 m rain depth x 1.3 ha x 10,000 m<sup>2</sup>/ha= 16,640 m<sup>3</sup> of runoff volume
- 16,640 m<sup>3</sup> x 1000 L/m<sup>3</sup> = 16,640,000 L of runoff volume
- 16,640,000 L x 0.90 = 14,976,000 L to be treated by OGS unit

Annual Sediment Mass and Sediment Volume Load Calculation:

- 14,976,000 L x 125 mg/L x kg/1,000,000 mg = 1,872 kg annual sediment mass
- 1,872 kg x m<sup>3</sup>/1602 kg = 1.17 m<sup>3</sup> annual sediment volume
- 1.17 m<sup>3</sup> x 60% TSS removal rate by OGS = 0.70 m<sup>3</sup> minimum expected annual storage requirement in OGS

As a guideline, the U.S. EPA has determined typical annual sediment loads per drainage area for various sites by land use (see Table 1). Certain States, Provinces and local jurisdictions have also established such guidelines.

| Table 1 – Annual Mass Sediment Loading by Land Use |            |             |             |      |     |          |            |                 |
|--|------------|-------------|-------------|------|-----|----------|------------|-----------------|
|  | Commercial | Parking Lot | Residential |      |     | Highways | Industrial | Shopping Center |
|  |            |             | High        | Med. | Low |          |            |                 |
| (lbs/acre/yr)                                      | 1,000      | 400         | 420         | 250  | 10  | 880      | 500        | 440             |
| (kg/hectare/yr)                                    | 1,124      | 450         | 472         | 281  | 11  | 989      | 562        | 494             |

Source: U.S. EPA Stormwater Best Management Practice Design Guide Volume 1, Appendix D, Table D-1, Burton and Pitt 2002

### 3.4 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 Table 2, Section 3.5, and based on third-party performance testing conducted in accordance with the Canadian Environmental Technology Verification (ETV) Program's **Procedure for Laboratory Testing of Oil-Grit Separators**. 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:

3.4.1 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<sup>2</sup> to 1400 L/min/m<sup>2</sup>, and as stated in the ISO 14034 ETV Verification Statement for the OGS device.

3.4.2 Sediment removal efficiency for surface loading rates between 40 L/min/m<sup>2</sup> and 1400 L/min/m<sup>2</sup> shall be based on linear interpolation of data between consecutive tested surface loading rates.

3.4.3 Sediment removal efficiency for surface loading rates less than the lowest tested surface loading rate of 40 L/min/m<sup>2</sup> shall be assumed to be identical to the sediment removal efficiency at 40 L/min/m<sup>2</sup>. No extrapolation shall be allowed that results in a sediment removal efficiency that is greater than that demonstrated at 40 L/min/m<sup>2</sup>.

3.4.4 Sediment removal efficiency for surface loading rates greater than the highest tested surface loading rate of 1400 L/min/m<sup>2</sup> shall assume zero sediment removal for the portion of flow that exceeds 1400 L/min/m<sup>2</sup>, and shall be calculated using a simple proportioning formula, with 1400 L/min/m<sup>2</sup> 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<sup>2</sup>.

The OGS device shall also have sufficient annual sediment storage capacity as specified and calculated in Section 3.3.

3.4.5 The Peclet Number is not an approved method or model for calculating TSS removal, sizing, or scaling OGS devices.

3.4.6 If an alternate OGS device is proposed, supporting documentation shall be submitted that demonstrates:

- Canadian ETV or ISO 14034 ETV Verification Statement which verifies third-party performance testing conducted in accordance with the **Procedure for Laboratory Testing of Oil-Grit Separators**, including the Light Liquid Re-entrainment Simulation Testing.
- Equal or better sediment (TSS) removal of the PSD specified in Table 2 at equivalent surface loading rates, as compared to the OGS device specified herein.
- Equal or better Light Liquid Re-entrainment Simulation Test results (using low-density polyethylene beads as a surrogate for light liquids such as oil and fuel) at equivalent surface loading rates, as compared to the OGS device specified herein. However, an alternative OGS device shall not be allowed as a substitute if the Light Liquid Re-entrainment Simulation Test was performed with screening components within the OGS device that are effective at retaining the low-density polyethylene beads, but would not be expected to retain light liquids such as oil and fuel.
- Equal or greater sediment storage capacity, as compared to the OGS device specified herein.
- Supporting documentation shall be signed and sealed by a local registered Professional Engineer. All costs associated with preparing and certifying this documentation shall be born solely by the Contractor.

### 3.5 PARTICLE SIZE DISTRIBUTION (PSD) FOR SIZING

The OGS device shall be sized to achieve the Engineer-specified average annual percent sediment (TSS) removal based solely on the test sediment used in the Canadian ETV Program's **Procedure for Laboratory Testing of Oil-Grit Separators**. This test sediment is comprised of inorganic ground silica with a specific gravity of 2.65, uniformly mixed, and containing a broad range of particle sizes as specified in Table 2. No alternative PSDs or deviations from Table 2 shall be accepted.

| <b>Table 2</b><br><b>Canadian ETV Program Procedure for Laboratory</b><br><b>Testing of Oil-Grit Separators</b><br><b>Particle Size Distribution (PSD) of Test Sediment</b> |                            |                  |
|---|----------------------------|------------------|
| Particle Diameter (Microns)   | % by Mass of All Particles | Specific Gravity |
| 1000  | 5%                         | 2.65             |
| 500   | 5%                         | 2.65             |
| 250   | 15%                        | 2.65             |
| 150   | 15%                        | 2.65             |
| 100   | 10%                        | 2.65             |
| 75  | 5%                         | 2.65             |
| 50  | 10%                        | 2.65             |
| 20  | 15%                        | 2.65             |
| 8   | 10%                        | 2.65             |
| 5   | 5%                         | 2.65             |
| 2   | 5%                         | 2.65             |

### 3.6 CANADIAN ETV or ISO 14034 ETV VERIFICATION OF SCOUR TESTING

The OGS device shall have Canadian ETV or ISO 14034 ETV Verification of completed third-party scour testing conducted and have in accordance with the Canadian ETV Program's **Procedure for Laboratory Testing of Oil-Grit Separators**. This scour testing is conducted with the device pre-loaded with test sediment comprised of the particle size distribution (PSD) illustrated in Table 2.

3.6.1 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<sup>2</sup>.

Data generated from laboratory scour testing performed with an OGS device pre-loaded with a coarser PSD than in Table 2 (i.e. the coarser PSD has no particles in the 1-micron to 50-micron size range, or the D<sub>50</sub> of the test sediment exceeds 75 microns) shall not be acceptable for the determination of the device's suitability for on-line installation.

### 3.7 DESIGN ACCOUNTING FOR BYPASS

3.7.1 The OGS device shall be specified to achieve the TSS removal performance and water quality objectives without washout of previously captured pollutants. The OGS device shall also have sufficient hydraulic conveyance capacity to convey the peak storm event, in accordance with hydraulic conditions per the Engineer of Record. To ensure this is achieved, there are two design options with associated requirements:

3.7.1.1 The OGS device shall be placed **off-line** with an upstream diversion structure (typically in an upstream manhole) that only allows the water quality volume to be diverted to the OGS device, and excessive flows diverted downstream around the OGS device to prevent high flow washout of pollutants previously captured. This design typically incorporates a triangular layout including an upstream bypass manhole with an appropriately engineered weir wall, the OGS device, and a downstream junction manhole, which is connected to both the OGS device and bypass structure. In this case with an external bypass required, the OGS device manufacturer must provide calculations and designs for all structures, piping and any other required material applicable to the proper functioning of the system, stamped by a Professional Engineer.

3.7.1.2 Alternatively, OGS devices in compliance with Section 3.6 shall be acceptable for an **on-line** design configuration, thereby eliminating the requirement for an upstream bypass manhole and downstream junction manhole.

3.7.2 The OGS device shall also have sufficient hydraulic conveyance capacity to convey the peak storm event, in accordance with hydraulic conditions per the Engineer of Record. If an alternate OGS device is proposed, supporting documentation shall be submitted that demonstrates equal or better hydraulic conveyance capacity as compared to the OGS device specified herein. This documentation shall be signed and sealed by a local registered Professional Engineer. All costs associated with preparing and certifying this documentation shall be born solely by the Contractor.

### 3.8 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.



3.8.1 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<sup>2</sup> to 2600 L/min/m<sup>2</sup>) 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.

### 3.9 PETROLEUM HYDROCARBONS AND FLOATABLES STORAGE CAPACITY

Petroleum hydrocarbons and floatables storage capacity in the OGS device shall be a minimum 50 gallons (189 Liters), or more as specified.

3.9.1 The OGS device shall have gasketed precast concrete joints that are watertight, and oil resistant and meet the design criteria according to ASTM C-443 to provide safe oil and other hydrocarbon materials storage and ground water protection. Mastic sealants or butyl tape/rope alone are not an acceptable alternative.

### 3.10 SURFACE LOADING RATE SCALING OF DIFFERENT MODEL SIZES

The reference device for scaling shall be an OGS device that has been third-party tested in accordance with the Canadian ETV Program's **Procedure for Laboratory Testing of Oil-Grit Separators**. Other model sizes of the tested device shall only be scaled such that the claimed TSS removal efficiency of the scaled device shall be no greater than the TSS removal efficiency of the tested device at identical **surface loading rates** (flow rate divided by settling surface area). The depth of other model sizes of the tested device shall be scaled in accordance with the depth scaling provisions within Section 6.0 of the Canadian ETV Program's **Procedure for Laboratory Testing of Oil-Grit Separators**.

3.10.1 The Peclet Number and volumetric scaling are not approved methods for scaling OGS devices.

## **PART 4 – INSPECTION & MAINTENANCE**

The OGS manufacturer shall provide an Owner's Manual upon request. Maintenance shall be performed by a professional service provider who has experience in cleaning OGS devices and has been trained and certified in applicable health and safety practices, including confined space entry procedures.

- 4.1 A Quality Assurance Plan that provides inspection for a minimum of 5 years shall be included with the OGS stormwater quality device, and written into the Environmental Compliance Approval (ECA) or the appropriate State/Provincial or local approval document.
- 4.2 OGS device inspection shall include determination of sediment depth and presence of petroleum hydrocarbons below the insert. Inspection shall be easily conducted from finished grade through a frame and cover of at least 22 inch (560 mm) in diameter.
- 4.3 Inspection and pollutant removal shall be conducted periodically. For routine maintenance cleaning activities, pollutant removal shall typically utilize a truck equipped with vacuum apparatus, and shall be easily conducted from finished grade through a frame and cover of at least 22-inches (560 mm) in diameter.
- 4.4 Diameter of the maintenance access opening to the lower chamber and sump shall be scaled consistently across all model sizes, and shall be 1/3 the inside diameter of the OGS structure, or larger.
- 4.5 No confined space entry shall be required for routine inspection and maintenance cleaning activities.

- 4.6 For OGS model sizes of diameter 72 inches (1828 mm) and greater, the access opening to the OGS device's lower chamber and sump shall be large enough to allow a maintenance worker to enter the lower chamber to facilitate non-routine maintenance cleaning activities and repairs, as needed.
- 4.7 The orifice-containing component (i.e. drop pipe, duct, chute, etc.) of the OGS device used to control flow rate into the lower chamber shall be removable from the insert to facilitate cleaning, repair, or replacement of the orifice-containing component, as needed.

## **PART 5 – EXECUTION**

### **5.1 PRECAST CONCRETE INSTALLATION**

The installation of the precast concrete OGS stormwater quality treatment device shall conform to ASTM C 891, ASTM C 478, ASTM C 443, CAN/CSA-A257.4-14, CAN/CSA-A257.4-14, CAN/CSA-S6-00 and all highway, State/Provincial, or local specifications for the construction of manholes. Selected sections of a general specification that are applicable are summarized below. The Contractor shall furnish all labor, equipment and materials necessary to offload, assemble as needed the OGS internal components as specified in the Shop Drawings.

### **5.2 EXCAVATION**

5.2.1 Excavation for the installation of the OGS stormwater quality treatment device shall conform to highway, State/Provincial or local specifications. Topsoil that is removed during the excavation for the OGS stormwater quality treatment device shall be stockpiled in designated areas and not be mixed with subsoil or other materials. Topsoil stockpiles and the general site preparation for the installation of the OGS stormwater quality device shall conform to highway, State/Provincial or local specifications.

5.2.2 The OGS device shall not be installed on frozen ground. Excavation shall extend a minimum of 12 inch (300 mm) from the precast concrete surfaces plus an allowance for shoring and bracing where required. If the bottom of the excavation provides an unsuitable foundation additional excavation may be required.

5.2.3 In areas with a high water table, continuous dewatering shall be provided to ensure that the excavation is stable and free of water.

### **5.3 BACKFILLING**

Backfill material shall conform to highway, State/Provincial or local specifications. Backfill material shall be placed in uniform layers not exceeding 12 inches (300 mm) in depth and compacted to highway, State/Provincial or local specifications.

### **5.4 OGS WATER QUALITY DEVICE CONSTRUCTION SEQUENCE**

5.4.1 The precast concrete OGS stormwater quality treatment device is installed and leveled in sections in the following sequence:

- aggregate base
- base slab, or base
- riser section(s) (if required)
- riser section w/ pre-installed fiberglass insert
- upper riser section(s)
- internal OGS device components
- connect inlet and outlet pipes
- riser section, top slab and/or transition (if required)
- frame and access cover

5.4.2 The precast concrete base shall be placed level at the specified grade. The entire base shall be in contact with the underlying compacted granular material. Subsequent sections, complete with oil resistant, watertight joint seals, shall be installed in accordance with the precast concrete manufacturer's recommendations.

5.4.3 Adjustment of the OGS stormwater quality treatment device can be performed by lifting the upper sections free of the excavated area, re-leveling the base, and re-installing the sections. Damaged sections and gaskets shall be repaired or replaced as necessary. Once the OGS stormwater quality treatment device has been constructed, any lift holes must be plugged with mortar.

#### 5.5 DROP PIPE AND OIL INSPECTION PIPE

Once the upper precast concrete riser has been attached to the lower precast concrete riser section, the OGS device Drop Pipe and Oil Inspection Pipe must be attached, and watertight sealed to the fiberglass insert using Sikaflex 1a. Installation instructions and required materials shall be provided by the OGS manufacturer.

#### 5.6 INLET AND OUTLET PIPES

Inlet and outlet pipes shall be securely set using grout or approved pipe seals (flexible boot connections, where applicable) so that the structure is watertight. Non-secure inlets and outlets will result in improper performance.

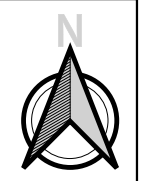
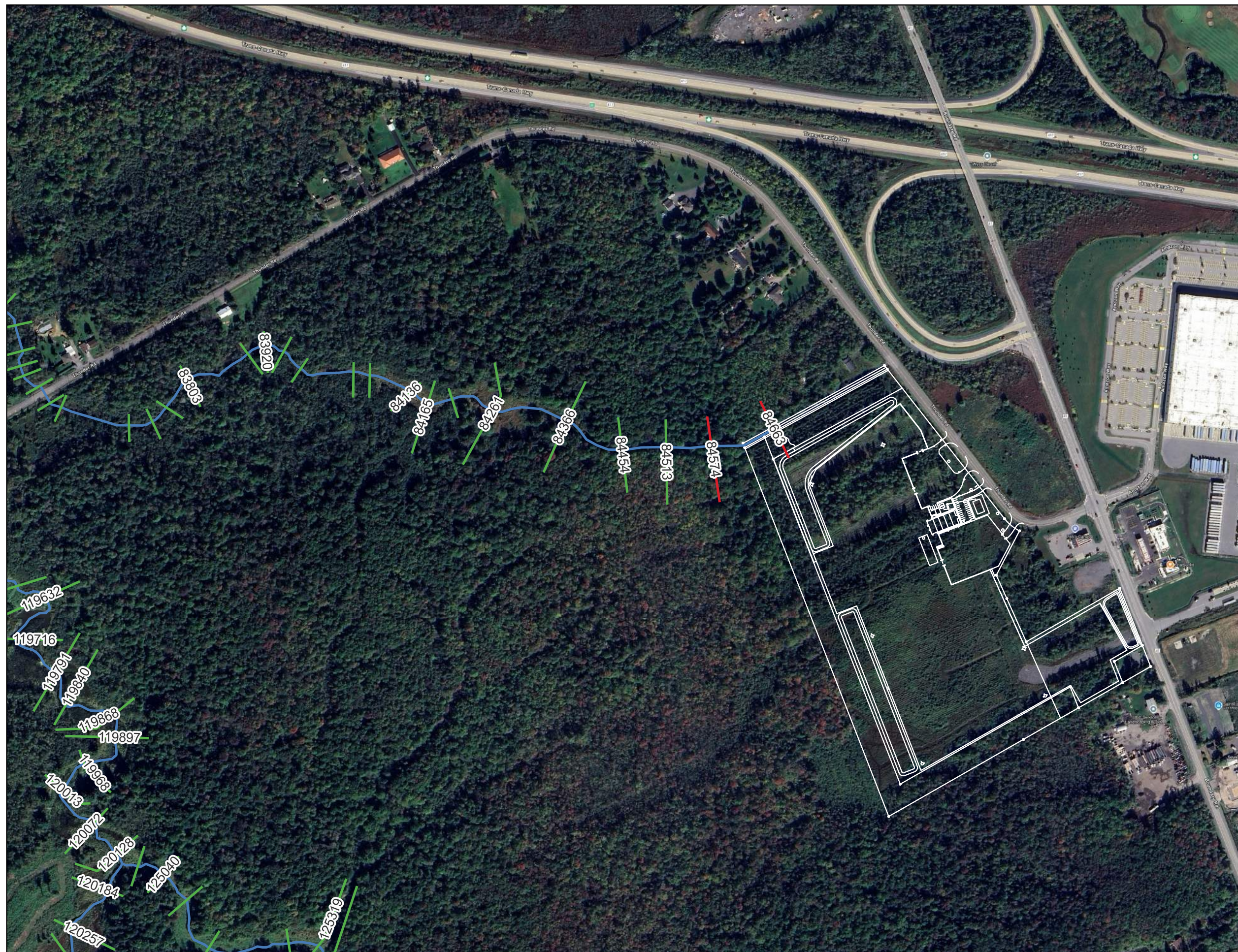
#### 5.7 FRAME AND COVER OR FRAME AND GRATE INSTALLATION

Precast concrete adjustment units shall be installed to set the frame and cover/grate at the required elevation. The adjustment units shall be laid in a full bed of mortar with successive units being joined using sealant recommended by the manufacturer. Frames for the cover/grate should be set in a full bed of mortar at the elevation specified.

5.7.1 A minimum of one cover, at least 22-inch (560 mm) in diameter, shall be clearly embossed with the OGS device brand or product name to properly identify this asset's purpose is for stormwater quality treatment.

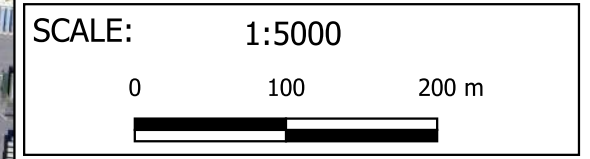
# Appendix E

HEC-RAS Modelling



**Legend**

- SNC XS
- River
- JFSA Additional XS



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Thunder Road Partnership

6150 Thunder Road

Figure E1: HEC-RAS Modifications

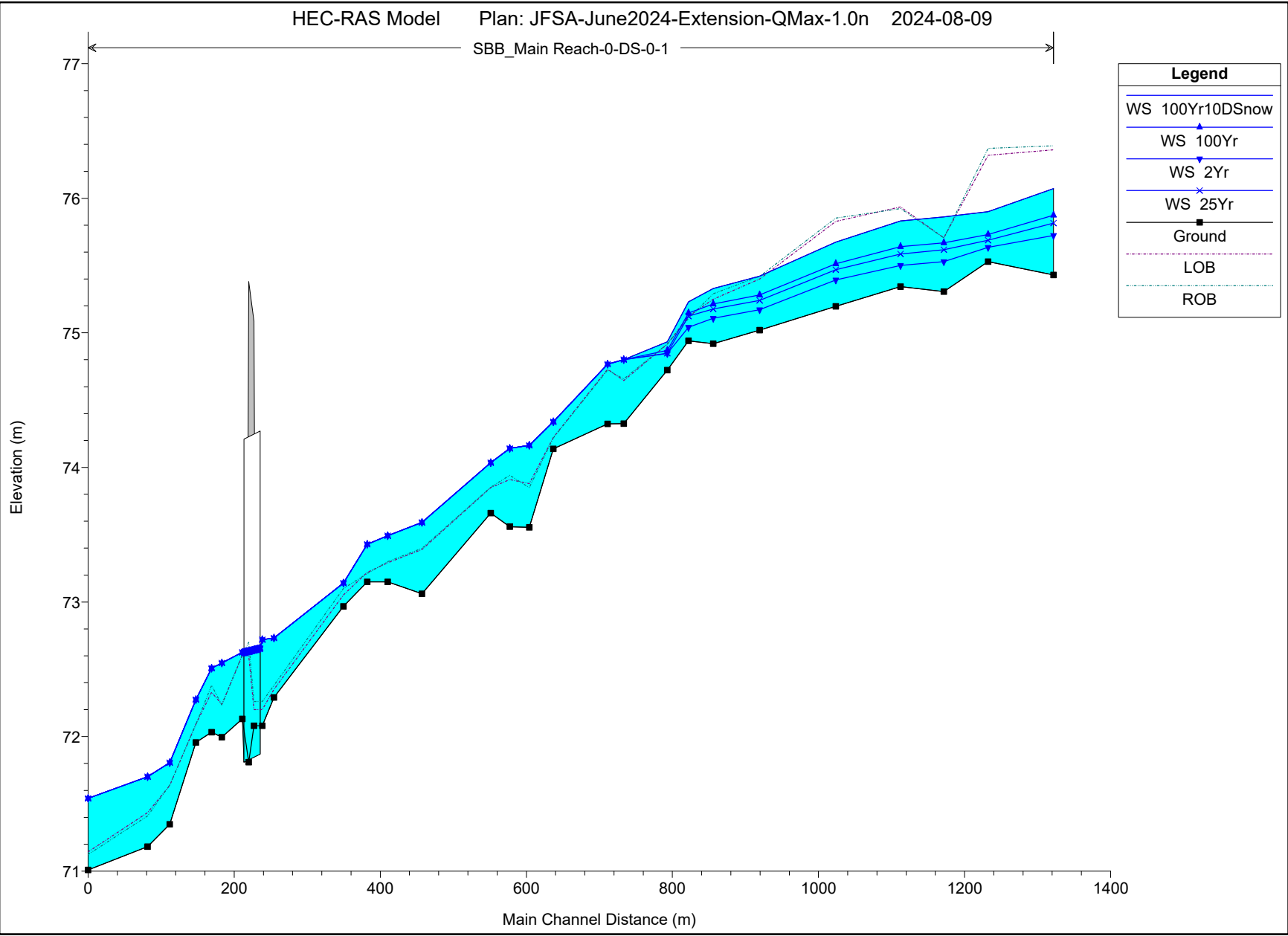
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|---------|-------------|
| PROJECT | 2120(01)-21 |
| DRAWN   | JB          |
| DATE    | NOV-2024    |

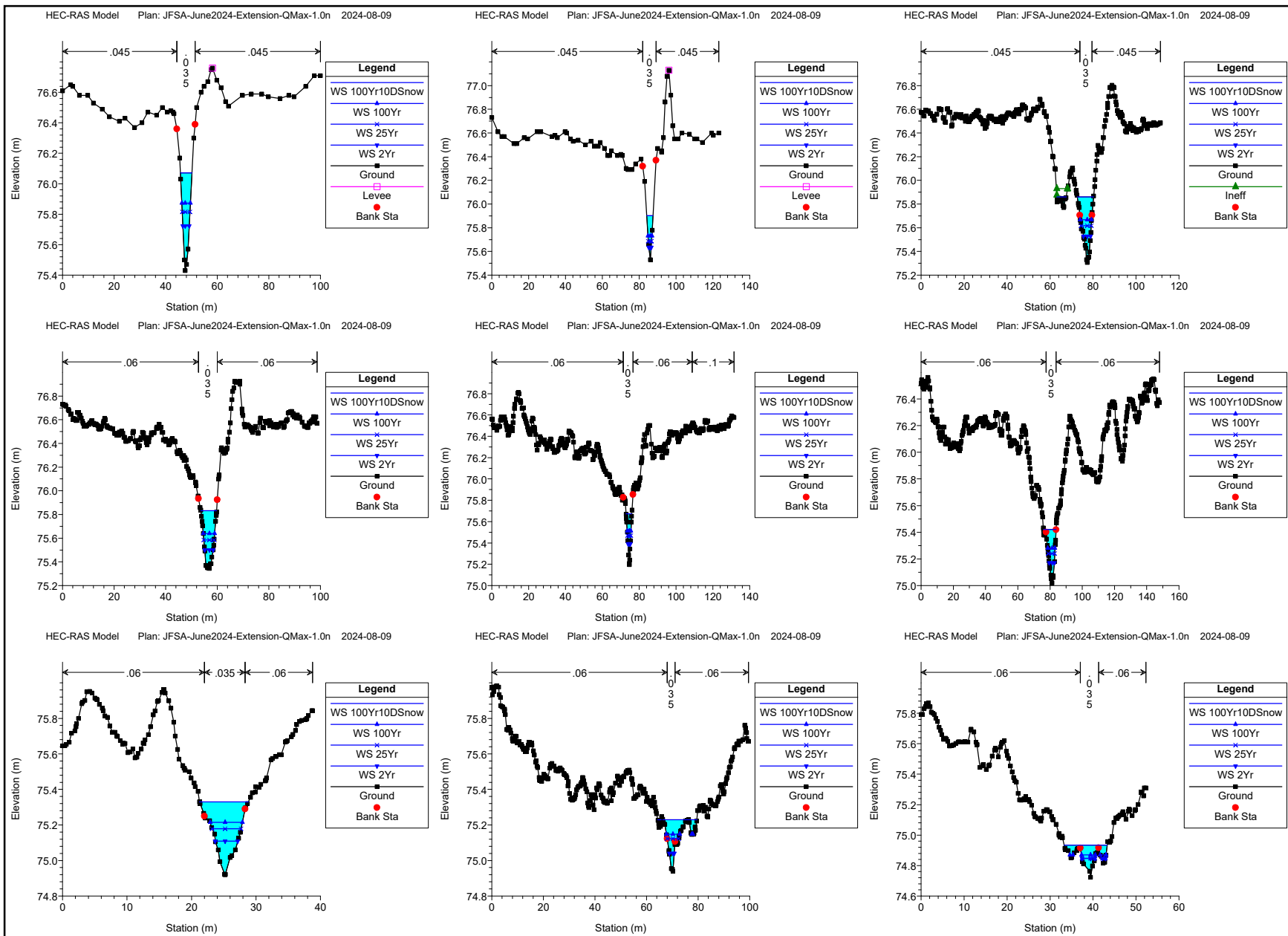
HEC-RAS Model Plan: JFSA-June2024-Extension-QMax-1.0n 2024-08-09

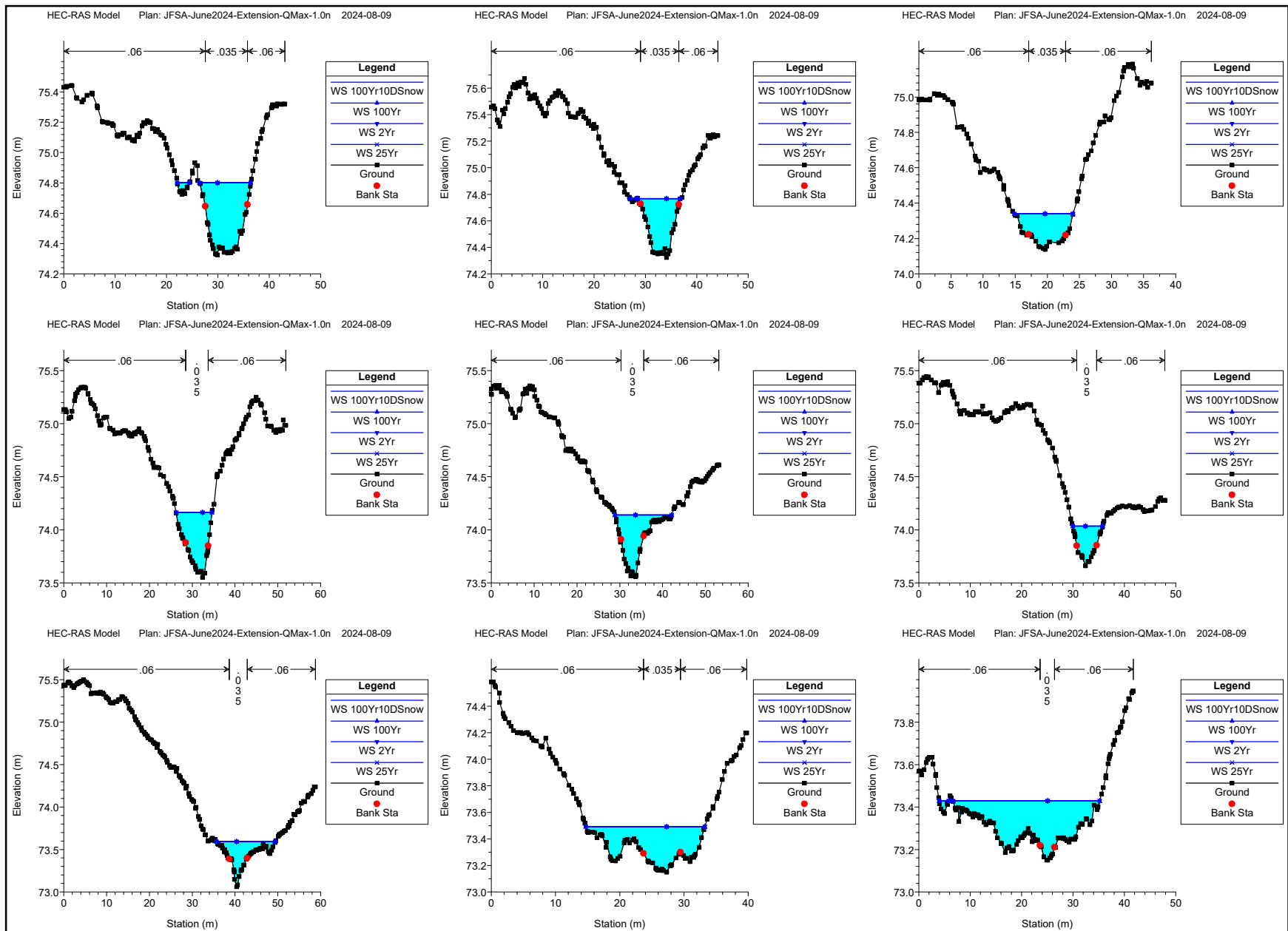
SBB\_Main Reach-0-DS-0-1

**Legend**

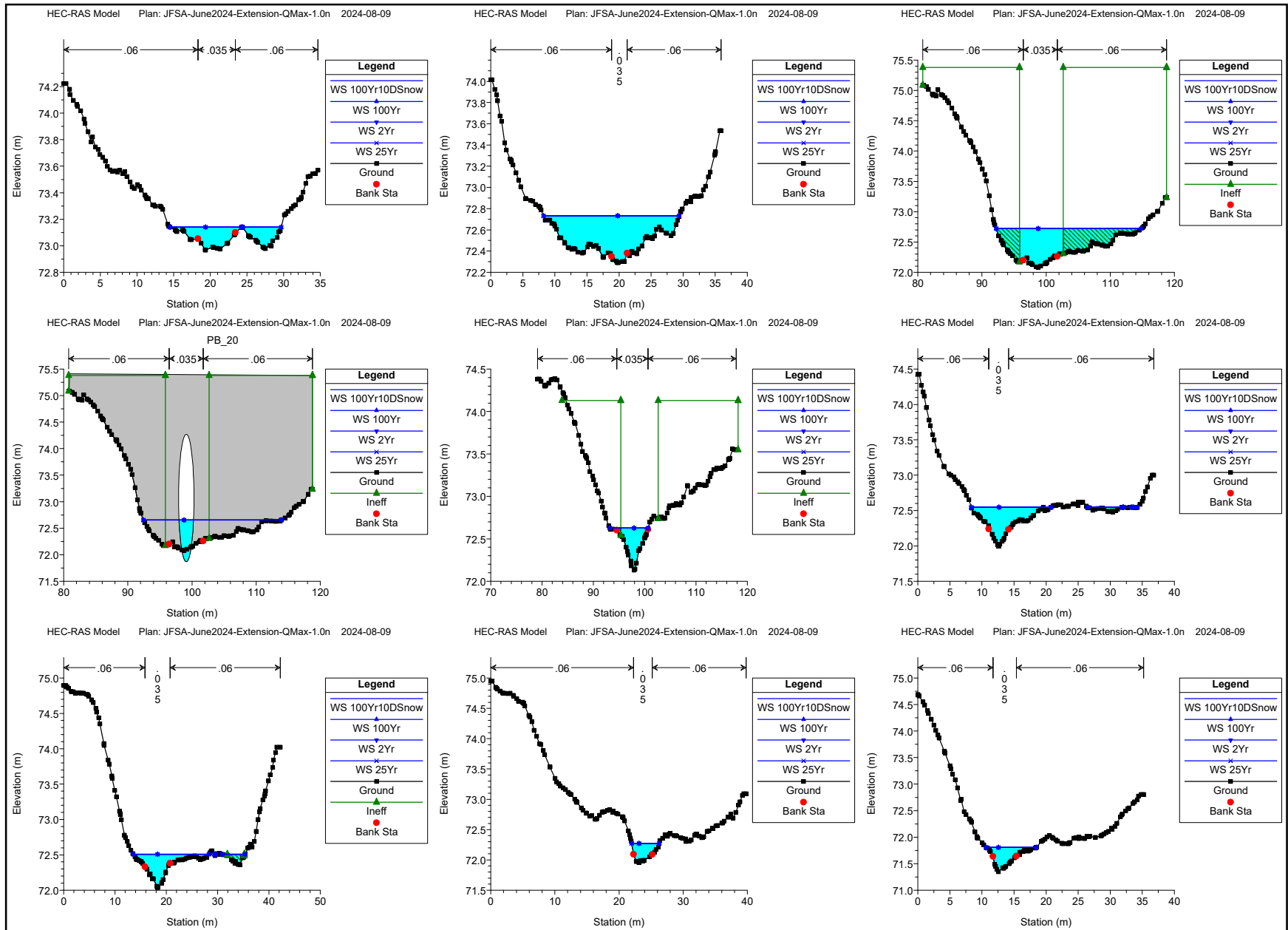
- WS 100Yr10DSnow
- WS 100Yr
- WS 2Yr
- WS 25Yr
- Ground
- LOB
- ROB

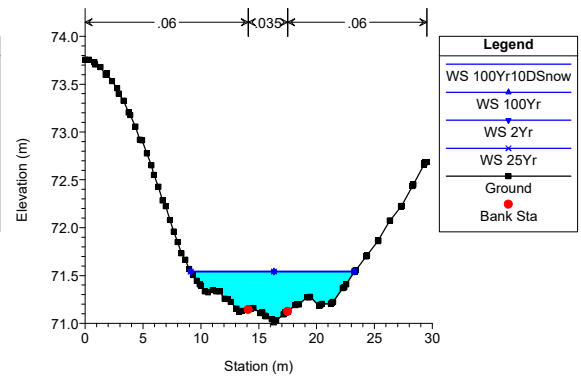
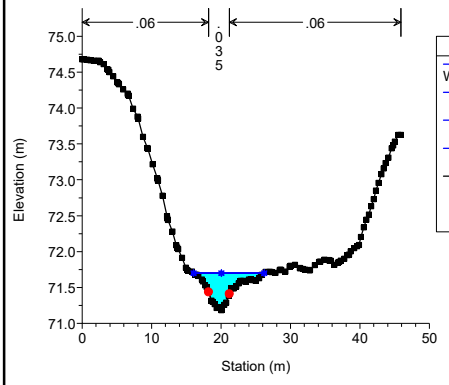










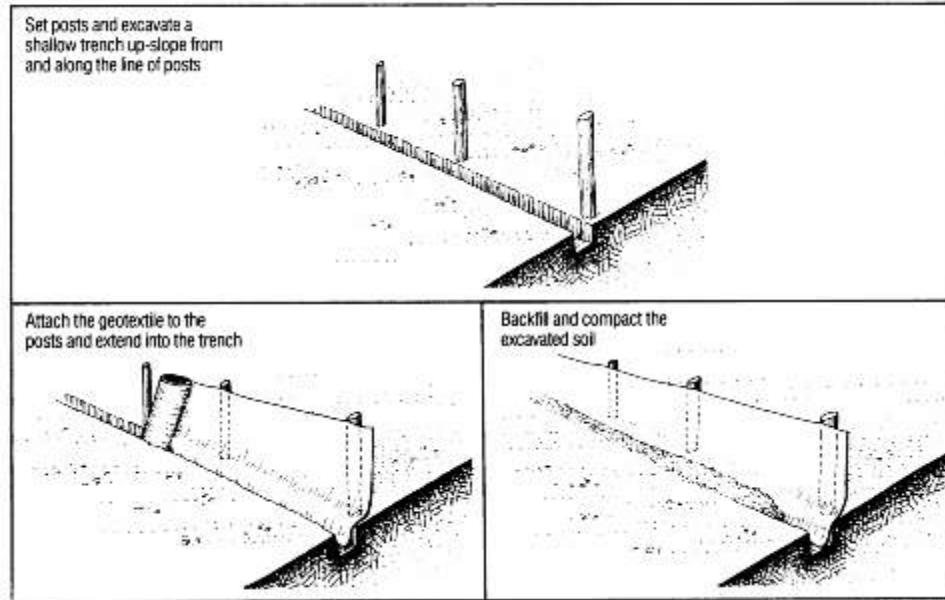


HEC-RAS Plan: JFSA-June2024-Extension River: SBB\_Main Reach: Reach-0-DS-0-1

| Reach          | River Sta | Profile      | Q Total<br>(m3/s) | Min Ch El<br>(m) | W.S. Elev<br>(m) | Crit W.S.<br>(m) | E.G. Elev<br>(m) | E.G. Slope<br>(m/m) | Vel Chnl<br>(m/s) | Flow Area<br>(m2) | Top Width<br>(m) | Froude # Chl |
|----------------|-----------|--------------|-------------------|------------------|------------------|------------------|------------------|---------------------|-------------------|-------------------|------------------|--------------|
| Reach-0-DS-0-1 | 84663.10  | 100Yr10DSnow | 0.60              | 75.43            | 76.07            | 75.73            | 76.08            | 0.000638            | 0.36              | 1.67              | 4.53             | 0.19         |
| Reach-0-DS-0-1 | 84663.10  | 100Yr        | 0.20              | 75.43            | 75.87            | 75.61            | 75.88            | 0.000397            | 0.23              | 0.88              | 3.37             | 0.14         |
| Reach-0-DS-0-1 | 84663.10  | 2Yr          | 0.05              | 75.43            | 75.72            | 75.53            | 75.72            | 0.000177            | 0.12              | 0.44              | 2.50             | 0.09         |
| Reach-0-DS-0-1 | 84663.10  | 25Yr         | 0.13              | 75.43            | 75.82            | 75.58            | 75.82            | 0.000326            | 0.19              | 0.70              | 3.04             | 0.13         |
| Reach-0-DS-0-1 | 84574     | 100Yr10DSnow | 0.60              | 75.53            | 75.90            | 75.82            | 75.94            | 0.007139            | 0.84              | 0.72              | 3.42             | 0.58         |
| Reach-0-DS-0-1 | 84574     | 100Yr        | 0.20              | 75.53            | 75.73            | 75.71            | 75.77            | 0.016524            | 0.83              | 0.24              | 2.17             | 0.80         |
| Reach-0-DS-0-1 | 84574     | 2Yr          | 0.05              | 75.53            | 75.63            | 75.63            | 75.66            | 0.037138            | 0.76              | 0.07              | 1.30             | 1.06         |
| Reach-0-DS-0-1 | 84574     | 25Yr         | 0.13              | 75.53            | 75.69            | 75.69            | 75.73            | 0.025368            | 0.86              | 0.15              | 1.84             | 0.95         |
| Reach-0-DS-0-1 | 84513     | 100Yr10DSnow | 0.60              | 75.31            | 75.86            | 75.56            | 75.87            | 0.000385            | 0.28              | 2.22              | 11.97            | 0.15         |
| Reach-0-DS-0-1 | 84513     | 100Yr        | 0.20              | 75.31            | 75.67            | 75.46            | 75.67            | 0.000481            | 0.20              | 0.99              | 5.33             | 0.15         |
| Reach-0-DS-0-1 | 84513     | 2Yr          | 0.05              | 75.31            | 75.53            | 75.39            | 75.53            | 0.000390            | 0.13              | 0.39              | 3.27             | 0.13         |
| Reach-0-DS-0-1 | 84513     | 25Yr         | 0.13              | 75.31            | 75.62            | 75.44            | 75.62            | 0.000485            | 0.18              | 0.73              | 4.70             | 0.15         |
| Reach-0-DS-0-1 | 84454     | 100Yr10DSnow | 0.60              | 75.34            | 75.83            |                  | 75.84            | 0.000599            | 0.32              | 1.89              | 6.07             | 0.18         |
| Reach-0-DS-0-1 | 84454     | 100Yr        | 0.20              | 75.34            | 75.64            |                  | 75.64            | 0.000531            | 0.23              | 0.89              | 4.37             | 0.16         |
| Reach-0-DS-0-1 | 84454     | 2Yr          | 0.05              | 75.34            | 75.50            |                  | 75.50            | 0.000527            | 0.15              | 0.35              | 3.29             | 0.14         |
| Reach-0-DS-0-1 | 84454     | 25Yr         | 0.13              | 75.34            | 75.59            |                  | 75.59            | 0.000538            | 0.20              | 0.66              | 3.97             | 0.16         |
| Reach-0-DS-0-1 | 84366     | 100Yr10DSnow | 0.60              | 75.20            | 75.67            |                  | 75.71            | 0.006188            | 0.83              | 0.72              | 3.06             | 0.55         |
| Reach-0-DS-0-1 | 84366     | 100Yr        | 0.20              | 75.20            | 75.51            |                  | 75.53            | 0.005598            | 0.62              | 0.32              | 1.99             | 0.49         |
| Reach-0-DS-0-1 | 84366     | 2Yr          | 0.05              | 75.20            | 75.39            |                  | 75.40            | 0.005235            | 0.42              | 0.12              | 1.29             | 0.43         |
| Reach-0-DS-0-1 | 84366     | 25Yr         | 0.13              | 75.20            | 75.47            |                  | 75.48            | 0.005569            | 0.55              | 0.24              | 1.75             | 0.47         |
| Reach-0-DS-0-1 | 84261     | 100Yr10DSnow | 0.60              | 75.02            | 75.42            |                  | 75.43            | 0.001426            | 0.41              | 1.51              | 7.90             | 0.27         |
| Reach-0-DS-0-1 | 84261     | 100Yr        | 0.20              | 75.02            | 75.28            |                  | 75.29            | 0.001274            | 0.29              | 0.69              | 4.50             | 0.24         |
| Reach-0-DS-0-1 | 84261     | 2Yr          | 0.05              | 75.02            | 75.17            |                  | 75.17            | 0.001224            | 0.19              | 0.27              | 3.18             | 0.21         |
| Reach-0-DS-0-1 | 84261     | 25Yr         | 0.13              | 75.02            | 75.24            |                  | 75.24            | 0.001229            | 0.25              | 0.52              | 4.00             | 0.23         |
| Reach-0-DS-0-1 | 84199     | 100Yr10DSnow | 0.60              | 74.92            | 75.33            |                  | 75.34            | 0.001422            | 0.41              | 1.51              | 7.58             | 0.27         |
| Reach-0-DS-0-1 | 84199     | 100Yr        | 0.20              | 74.92            | 75.21            |                  | 75.22            | 0.000978            | 0.26              | 0.78              | 5.01             | 0.21         |
| Reach-0-DS-0-1 | 84199     | 2Yr          | 0.05              | 74.92            | 75.11            |                  | 75.11            | 0.000702            | 0.16              | 0.33              | 3.50             | 0.16         |
| Reach-0-DS-0-1 | 84199     | 25Yr         | 0.13              | 74.92            | 75.18            |                  | 75.18            | 0.000855            | 0.22              | 0.60              | 4.49             | 0.19         |
| Reach-0-DS-0-1 | 84165     | 100Yr10DSnow | 0.60              | 74.94            | 75.23            | 75.18            | 75.25            | 0.005523            | 0.75              | 1.26              | 14.57            | 0.52         |
| Reach-0-DS-0-1 | 84165     | 100Yr        | 0.20              | 74.94            | 75.15            | 75.08            | 75.16            | 0.004383            | 0.48              | 0.47              | 5.70             | 0.43         |
| Reach-0-DS-0-1 | 84165     | 2Yr          | 0.05              | 74.94            | 75.04            |                  | 75.05            | 0.010324            | 0.45              | 0.12              | 1.89             | 0.58         |
| Reach-0-DS-0-1 | 84165     | 25Yr         | 0.13              | 74.94            | 75.12            | 75.06            | 75.13            | 0.003942            | 0.40              | 0.36              | 4.44             | 0.39         |
| Reach-0-DS-0-1 | 84136     | 100Yr10DSnow | 0.60              | 74.72            | 74.93            | 74.93            | 74.98            | 0.021645            | 0.99              | 0.80              | 10.01            | 0.93         |
| Reach-0-DS-0-1 | 84136     | 100Yr        | 0.20              | 74.72            | 74.87            | 74.87            | 74.90            | 0.024843            | 0.79              | 0.28              | 5.33             | 0.93         |
| Reach-0-DS-0-1 | 84136     | 2Yr          | 0.05              | 74.72            | 74.85            |                  | 74.85            | 0.004831            | 0.30              | 0.19              | 3.70             | 0.39         |
| Reach-0-DS-0-1 | 84136     | 25Yr         | 0.13              | 74.72            | 74.85            | 74.85            | 74.88            | 0.029898            | 0.74              | 0.19              | 3.72             | 0.98         |
| Reach-0-DS-0-1 | 84077     | 100Yr10DSnow | 1.25              | 74.32            | 74.80            |                  | 74.81            | 0.000672            | 0.39              | 3.41              | 12.40            | 0.20         |
| Reach-0-DS-0-1 | 84077     | 100Yr        | 1.25              | 74.32            | 74.80            |                  | 74.81            | 0.000672            | 0.39              | 3.41              | 12.40            | 0.20         |
| Reach-0-DS-0-1 | 84077     | 2Yr          | 1.25              | 74.32            | 74.80            |                  | 74.81            | 0.000672            | 0.39              | 3.41              | 12.40            | 0.20         |
| Reach-0-DS-0-1 | 84077     | 25Yr         | 1.25              | 74.32            | 74.80            |                  | 74.81            | 0.000672            | 0.39              | 3.41              | 12.40            | 0.20         |
| Reach-0-DS-0-1 | 84055     | 100Yr10DSnow | 1.25              | 74.32            | 74.77            | 74.58            | 74.78            | 0.002116            | 0.57              | 2.21              | 9.58             | 0.34         |
| Reach-0-DS-0-1 | 84055     | 100Yr        | 1.25              | 74.32            | 74.77            | 74.58            | 74.78            | 0.002116            | 0.57              | 2.21              | 9.58             | 0.34         |
| Reach-0-DS-0-1 | 84055     | 2Yr          | 1.25              | 74.32            | 74.77            | 74.58            | 74.78            | 0.002116            | 0.57              | 2.21              | 9.58             | 0.34         |
| Reach-0-DS-0-1 | 84055     | 25Yr         | 1.25              | 74.32            | 74.77            | 74.58            | 74.78            | 0.002116            | 0.57              | 2.21              | 9.58             | 0.34         |
| Reach-0-DS-0-1 | 83980     | 100Yr10DSnow | 1.25              | 74.14            | 74.34            | 74.34            | 74.41            | 0.021311            | 1.23              | 1.18              | 9.13             | 0.98         |
| Reach-0-DS-0-1 | 83980     | 100Yr        | 1.25              | 74.14            | 74.34            | 74.34            | 74.41            | 0.021311            | 1.23              | 1.18              | 9.13             | 0.98         |
| Reach-0-DS-0-1 | 83980     | 2Yr          | 1.25              | 74.14            | 74.34            | 74.34            | 74.41            | 0.021311            | 1.23              | 1.18              | 9.13             | 0.98         |
| Reach-0-DS-0-1 | 83980     | 25Yr         | 1.25              | 74.14            | 74.34            | 74.34            | 74.41            | 0.021311            | 1.23              | 1.18              | 9.13             | 0.98         |
| Reach-0-DS-0-1 | 83947     | 100Yr10DSnow | 1.25              | 73.55            | 74.16            |                  | 74.17            | 0.000718            | 0.46              | 3.07              | 8.42             | 0.21         |
| Reach-0-DS-0-1 | 83947     | 100Yr        | 1.25              | 73.55            | 74.16            |                  | 74.17            | 0.000718            | 0.46              | 3.07              | 8.42             | 0.21         |
| Reach-0-DS-0-1 | 83947     | 2Yr          | 1.25              | 73.55            | 74.16            |                  | 74.17            | 0.000718            | 0.46              | 3.07              | 8.42             | 0.21         |
| Reach-0-DS-0-1 | 83947     | 25Yr         | 1.25              | 73.55            | 74.16            |                  | 74.17            | 0.000718            | 0.46              | 3.07              | 8.42             | 0.21         |
| Reach-0-DS-0-1 | 83920     | 100Yr10DSnow | 1.25              | 73.56            | 74.14            |                  | 74.15            | 0.000955            | 0.51              | 3.00              | 13.28            | 0.24         |
| Reach-0-DS-0-1 | 83920     | 100Yr        | 1.25              | 73.56            | 74.14            |                  | 74.15            | 0.000955            | 0.51              | 3.00              | 13.28            | 0.24         |
| Reach-0-DS-0-1 | 83920     | 2Yr          | 1.25              | 73.56            | 74.14            |                  | 74.15            | 0.000955            | 0.51              | 3.00              | 13.28            | 0.24         |
| Reach-0-DS-0-1 | 83920     | 25Yr         | 1.25              | 73.56            | 74.14            |                  | 74.15            | 0.000955            | 0.51              | 3.00              | 13.28            | 0.24         |
| Reach-0-DS-0-1 | 83894     | 100Yr10DSnow | 1.25              | 73.66            | 74.03            |                  | 74.09            | 0.007914            | 1.10              | 1.27              | 5.85             | 0.66         |
| Reach-0-DS-0-1 | 83894     | 100Yr        | 1.25              | 73.66            | 74.03            |                  | 74.09            | 0.007914            | 1.10              | 1.27              | 5.85             | 0.66         |
| Reach-0-DS-0-1 | 83894     | 2Yr          | 1.25              | 73.66            | 74.03            |                  | 74.09            | 0.007914            | 1.10              | 1.27              | 5.85             | 0.66         |
| Reach-0-DS-0-1 | 83894     | 25Yr         | 1.25              | 73.66            | 74.03            |                  | 74.09            | 0.007914            | 1.10              | 1.27              | 5.85             | 0.66         |
| Reach-0-DS-0-1 | 83803     | 100Yr10DSnow | 1.25              | 73.06            | 73.59            |                  | 73.62            | 0.003312            | 0.77              | 2.29              | 13.73            | 0.43         |
| Reach-0-DS-0-1 | 83803     | 100Yr        | 1.25              | 73.06            | 73.59            |                  | 73.62            | 0.003312            | 0.77              | 2.29              | 13.73            | 0.43         |
| Reach-0-DS-0-1 | 83803     | 2Yr          | 1.25              | 73.06            | 73.59            |                  | 73.62            | 0.003312            | 0.77              | 2.29              | 13.73            | 0.43         |
| Reach-0-DS-0-1 | 83803     | 25Yr         | 1.25              | 73.06            | 73.59            |                  | 73.62            | 0.003312            | 0.77              | 2.29              | 13.73            | 0.43         |
| Reach-0-DS-0-1 | 83757     | 100Yr10DSnow | 1.25              | 73.15            | 73.49            |                  | 73.50            | 0.001872            | 0.53              | 3.52              | 18.53            | 0.32         |
| Reach-0-DS-0-1 | 83757     | 100Yr        | 1.25              | 73.15            | 73.49            |                  | 73.50            | 0.001872            | 0.53              | 3.52              | 18.53            | 0.32         |
| Reach-0-DS-0-1 | 83757     | 2Yr          | 1.25              | 73.15            | 73.49            |                  | 73.50            | 0.001872            | 0.53              | 3.52              | 18.53            | 0.32         |
| Reach-0-DS-0-1 | 83757     | 25Yr         | 1.25              | 73.15            | 73.49            |                  | 73.50            | 0.001872            | 0.53              | 3.52              | 18.53            | 0.32         |
| Reach-0-DS-0-1 | 83729     | 100Yr10DSnow | 1.25              | 73.15            | 73.43            | 73.34            | 73.44            | 0.002971            | 0.62              | 4.18              | 30.44            | 0.40         |
| Reach-0-DS-0-1 | 83729     | 100Yr        | 1.25              | 73.15            | 73.43            | 73.34            | 73.44            | 0.002971            | 0.62              | 4.18              | 30.44            | 0.40         |
| Reach-0-DS-0-1 | 83729     | 2Yr          | 1.25              | 73.15            | 73.43            | 73.34            | 73.44            | 0.002971            | 0.62              | 4.18              | 30.44            | 0.40         |
| Reach-0-DS-0-1 | 83729     | 25Yr         | 1.25              | 73.15            | 73.43            | 73.34            | 73.44            | 0.002971            | 0.62              | 4.18              | 30.44            | 0.40         |

HEC-RAS Plan: JFSA-June2024-Extension River: SBB\_Main Reach: Reach-0-DS-0-1 (Continued)

| Reach          | River Sta   | Profile      | Q Total<br>(m3/s) | Min Ch El<br>(m) | W.S. Elev<br>(m) | Crit W.S.<br>(m) | E.G. Elev<br>(m) | E.G. Slope<br>(m/m) | Vel Chnl<br>(m/s) | Flow Area<br>(m2) | Top Width<br>(m) | Froude # Chl |
|----------------|-------------|--------------|-------------------|------------------|------------------|------------------|------------------|---------------------|-------------------|-------------------|------------------|--------------|
| Reach-0-DS-0-1 | 83696       | 100Yr10DSnow | 1.25              | 72.97            | 73.14            | 73.14            | 73.20            | 0.029603            | 1.29              | 1.39              | 15.06            | 1.12         |
| Reach-0-DS-0-1 | 83696       | 100Yr        | 1.25              | 72.97            | 73.14            | 73.14            | 73.20            | 0.029603            | 1.29              | 1.39              | 15.06            | 1.12         |
| Reach-0-DS-0-1 | 83696       | 2Yr          | 1.25              | 72.97            | 73.14            | 73.14            | 73.20            | 0.029603            | 1.29              | 1.39              | 15.06            | 1.12         |
| Reach-0-DS-0-1 | 83696       | 25Yr         | 1.25              | 72.97            | 73.14            | 73.14            | 73.20            | 0.029603            | 1.29              | 1.39              | 15.06            | 1.12         |
| Reach-0-DS-0-1 | 83604       | 100Yr10DSnow | 1.25              | 72.29            | 72.73            |                  | 72.74            | 0.000778            | 0.45              | 5.47              | 21.16            | 0.22         |
| Reach-0-DS-0-1 | 83604       | 100Yr        | 1.25              | 72.29            | 72.73            |                  | 72.74            | 0.000778            | 0.45              | 5.47              | 21.16            | 0.22         |
| Reach-0-DS-0-1 | 83604       | 2Yr          | 1.25              | 72.29            | 72.73            |                  | 72.74            | 0.000778            | 0.45              | 5.47              | 21.16            | 0.22         |
| Reach-0-DS-0-1 | 83604       | 25Yr         | 1.25              | 72.29            | 72.73            |                  | 72.74            | 0.000778            | 0.45              | 5.47              | 21.16            | 0.22         |
| Reach-0-DS-0-1 | 83589       | 100Yr10DSnow | 1.25              | 72.08            | 72.72            | 72.34            | 72.73            | 0.000389            | 0.38              | 3.64              | 22.63            | 0.16         |
| Reach-0-DS-0-1 | 83589       | 100Yr        | 1.25              | 72.08            | 72.72            | 72.34            | 72.73            | 0.000389            | 0.38              | 3.64              | 22.63            | 0.16         |
| Reach-0-DS-0-1 | 83589       | 2Yr          | 1.25              | 72.08            | 72.72            | 72.34            | 72.73            | 0.000389            | 0.38              | 3.64              | 22.63            | 0.16         |
| Reach-0-DS-0-1 | 83589       | 25Yr         | 1.25              | 72.08            | 72.72            | 72.34            | 72.73            | 0.000389            | 0.38              | 3.64              | 22.63            | 0.16         |
| Reach-0-DS-0-1 | 83574 PB_20 |              |                   |                  |                  |                  |                  |                     |                   |                   |                  |              |
|                |             | Culvert      |                   |                  |                  |                  |                  |                     |                   |                   |                  |              |
| Reach-0-DS-0-1 | 83562       | 100Yr10DSnow | 1.25              | 72.13            | 72.63            | 72.54            | 72.67            | 0.006408            | 0.91              | 1.37              | 7.53             | 0.58         |
| Reach-0-DS-0-1 | 83562       | 100Yr        | 1.25              | 72.13            | 72.63            | 72.54            | 72.67            | 0.006408            | 0.91              | 1.37              | 7.53             | 0.58         |
| Reach-0-DS-0-1 | 83562       | 2Yr          | 1.25              | 72.13            | 72.63            | 72.54            | 72.67            | 0.006408            | 0.91              | 1.37              | 7.53             | 0.58         |
| Reach-0-DS-0-1 | 83562       | 25Yr         | 1.25              | 72.13            | 72.63            | 72.54            | 72.67            | 0.006408            | 0.91              | 1.37              | 7.53             | 0.58         |
| Reach-0-DS-0-1 | 83532       | 100Yr10DSnow | 1.25              | 71.99            | 72.55            |                  | 72.57            | 0.002015            | 0.73              | 2.82              | 19.89            | 0.35         |
| Reach-0-DS-0-1 | 83532       | 100Yr        | 1.25              | 71.99            | 72.55            |                  | 72.57            | 0.002015            | 0.73              | 2.82              | 19.89            | 0.35         |
| Reach-0-DS-0-1 | 83532       | 2Yr          | 1.25              | 71.99            | 72.55            |                  | 72.57            | 0.002015            | 0.73              | 2.82              | 19.89            | 0.35         |
| Reach-0-DS-0-1 | 83532       | 25Yr         | 1.25              | 71.99            | 72.55            |                  | 72.57            | 0.002015            | 0.73              | 2.82              | 19.89            | 0.35         |
| Reach-0-DS-0-1 | 83518       | 100Yr10DSnow | 1.25              | 72.03            | 72.51            | 72.38            | 72.53            | 0.003205            | 0.74              | 2.23              | 19.54            | 0.42         |
| Reach-0-DS-0-1 | 83518       | 100Yr        | 1.25              | 72.03            | 72.51            | 72.38            | 72.53            | 0.003205            | 0.74              | 2.23              | 19.54            | 0.42         |
| Reach-0-DS-0-1 | 83518       | 2Yr          | 1.25              | 72.03            | 72.51            | 72.38            | 72.53            | 0.003205            | 0.74              | 2.23              | 19.54            | 0.42         |
| Reach-0-DS-0-1 | 83518       | 25Yr         | 1.25              | 72.03            | 72.51            | 72.38            | 72.53            | 0.003205            | 0.74              | 2.23              | 19.54            | 0.42         |
| Reach-0-DS-0-1 | 83496       | 100Yr10DSnow | 1.25              | 71.96            | 72.27            | 72.27            | 72.39            | 0.017666            | 1.55              | 0.91              | 4.30             | 0.96         |
| Reach-0-DS-0-1 | 83496       | 100Yr        | 1.25              | 71.96            | 72.27            | 72.27            | 72.39            | 0.017666            | 1.55              | 0.91              | 4.30             | 0.96         |
| Reach-0-DS-0-1 | 83496       | 2Yr          | 1.25              | 71.96            | 72.27            | 72.27            | 72.39            | 0.017666            | 1.55              | 0.91              | 4.30             | 0.96         |
| Reach-0-DS-0-1 | 83496       | 25Yr         | 1.25              | 71.96            | 72.27            | 72.27            | 72.39            | 0.017666            | 1.55              | 0.91              | 4.30             | 0.96         |
| Reach-0-DS-0-1 | 83460       | 100Yr10DSnow | 1.25              | 71.35            | 71.81            |                  | 71.85            | 0.005642            | 1.00              | 1.47              | 7.83             | 0.56         |
| Reach-0-DS-0-1 | 83460       | 100Yr        | 1.25              | 71.35            | 71.81            |                  | 71.85            | 0.005642            | 1.00              | 1.47              | 7.83             | 0.56         |
| Reach-0-DS-0-1 | 83460       | 2Yr          | 1.25              | 71.35            | 71.81            |                  | 71.85            | 0.005642            | 1.00              | 1.47              | 7.83             | 0.56         |
| Reach-0-DS-0-1 | 83460       | 25Yr         | 1.25              | 71.35            | 71.81            |                  | 71.85            | 0.005642            | 1.00              | 1.47              | 7.83             | 0.56         |
| Reach-0-DS-0-1 | 83430       | 100Yr10DSnow | 1.25              | 71.18            | 71.70            |                  | 71.73            | 0.002815            | 0.85              | 2.10              | 10.15            | 0.41         |
| Reach-0-DS-0-1 | 83430       | 100Yr        | 1.25              | 71.18            | 71.70            |                  | 71.73            | 0.002815            | 0.85              | 2.10              | 10.15            | 0.41         |
| Reach-0-DS-0-1 | 83430       | 2Yr          | 1.25              | 71.18            | 71.70            |                  | 71.73            | 0.002815            | 0.85              | 2.10              | 10.15            | 0.41         |
| Reach-0-DS-0-1 | 83430       | 25Yr         | 1.25              | 71.18            | 71.70            |                  | 71.73            | 0.002815            | 0.85              | 2.10              | 10.15            | 0.41         |
| Reach-0-DS-0-1 | 83350       | 100Yr10DSnow | 1.90              | 71.01            | 71.54            |                  | 71.56            | 0.001785            | 0.71              | 4.37              | 14.13            | 0.34         |
| Reach-0-DS-0-1 | 83350       | 100Yr        | 1.90              | 71.01            | 71.54            |                  | 71.56            | 0.001785            | 0.71              | 4.37              | 14.13            | 0.34         |
| Reach-0-DS-0-1 | 83350       | 2Yr          | 1.90              | 71.01            | 71.54            |                  | 71.56            | 0.001785            | 0.71              | 4.37              | 14.13            | 0.34         |
| Reach-0-DS-0-1 | 83350       | 25Yr         | 1.90              | 71.01            | 71.54            |                  | 71.56            | 0.001785            | 0.71              | 4.37              | 14.13            | 0.34         |



**Figure 7:** Typical installation of silt fences

## 4 CONCLUSION

As documented above, JFSA Canada Inc (JFSA) has completed a detailed hydrologic analysis of the proposed development site under pre-development conditions to establish target release rates. A detailed PCSWMM model was then created based on the detailed design developed by LRL to assess the hydrologic and hydraulic operations of the site under post-development conditions to ensure that: the development storm sewer network is sufficiently sized, the proposed SWM ponds have sufficient capacity to attenuate flows to pre-development conditions, that the major system storage locations do not pose a risk to the proposed building and the increase in runoff volume does not exacerbate downstream erosion issues. Based on this analysis it was determined that the proposed SWM infrastructure is sufficiently sized to ensure no risk to both the proposed development and surrounding existing lands.