FUNCTIONAL SERVICING & STORMWATER MANAGEMENT REPORT

ALTA SUBDIVISION PHASE II
TOWN OF THE BLUE MOUNTAINS

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FEBRUARY 2022

CFCA FILE NO. 119-2528

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REVISION HISTORY

Revision Number	Date	Comments
Rev.0	July 2021	Issued for 1st Submission – DPA
Rev.1	February 2022	Issued for 2nd Submission – DPA

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1.0 INTRODUCTION

C.F. Crozier & Associates Inc. (Crozier) was retained by Tabera Ltd. (Tabera) to complete a Functional Servicing and Stormwater Management Report in support of the relevant planning applications for the proposed Alta Phase II Subdivision located in the Town of The Blue Mountains (Town). The proposed development will herein be referred to as the Subject Lands. The Subject Lands are intended to be rezoned to Low-Density Recreational Residential.

The Subject Lands cover approximately 30 hectares of land and are legally described as Part of Lots 23 and 24, Concession 4, Town of The Blue Mountains, County of Grey. The Subject Lands are bounded by Hidden Lake Road to the north and Craigleith Provincial Park to the east. Alta Phase I development lands are located to the south and privately owned lands are situated to the west of the Subject Lands. Refer to **Figure 1** for a Site Location Plan.

The Draft Plan (February 2022) proposes 60 single-family residential units for the Subject Lands. The proposed development will also include a 20 m Right-of-Way (ROW), a stormwater management block and open space blocks for drainage and trail network purposes. In addition, the open space blocks contain both the Nipissing Ridge, which is situated along the north-easterly limits of the development lands and the Niagara Escarpment, which is located to the west of the development lands. The Draft Plan has been included in this report as **Figure 2**.

A Functional Servicing and Preliminary Stormwater Management Report (Crozier, January 2008) was originally submitted to the Town in 2008 for the Subject Lands. Through consultation discussions with the Town of The Blue Mountains in 2008, it was agreed that the analysis should include an evaluation of the drainage corridor downstream of the Subject Lands to the outlet at Georgian Bay. This Functional Servicing and Stormwater Management Report serves as an update to the report prepared in 2008 and outlines the proposed servicing, grading and stormwater management strategy for the Subject Lands as well as the evaluation of the drainage corridor downstream of the Subject Lands.

2.0 BACKGROUND

The proposed development lies within Subwatersheds 21 and 22 as defined in the *Craigleith Camperdown Subwatershed Study* (GSCA, 1993). The Craigleith Camperdown Subwatershed Study (CCSS) was prepared to identify opportunities and constraints for developments within the subwatersheds identified in the report. Specific areas of concern that were evaluated include flooding, stream channel erosion, groundwater recharge, water quality treatment and environmental resources. The CCSS establishes the framework of the proposed stormwater management strategy outlined in this report.

The Subject Lands are situated along the servicing boundary for the Camperdown Service Area and the Craigleith Service Area. The Alta Phase II lands were originally situated within the Camperdown Service Area per the *Comprehensive Environmental Study Report for the Lora Bay, Clarksburg, Thornbury and Camperdown Service Areas, Phase 2 Report* (MacViro, 2002). The MacViro report stated that the Alta Phase II lands could be temporarily serviced within the Craigleith Service Area via a temporary sewage pump station (SPS) pumping to the existing SPS constructed in Alta Phase I on Oak Court.

Prior to the execution of the Camperdown External Services contract, further investigation of the Wards Road and Hidden Lake Road area was completed to determine the practicality of servicing these lands as part of the Camperdown Service Area. This re-investigation was warranted because of the excessive depth of the sanitary sewers and SPS located at Delphi Point to provide for a gravity sanitary conveyance system from the Wards Road and Hidden Lake Road service area to the Delphi SPS. The major concern was the associated construction costs with the sanitary sewers depth and the relationship to the bedrock and groundwater elevations.

As a result of the re-evaluation of servicing for the Wards Road and Hidden Lake Road areas, an *Addendum to the Comprehensive ESR* (MacViro, 2005) was issued. The Addendum report recommended Hidden Lake/Wards Road and Alta Phase II be transferred to the Craigleith Service Area.

The Town of The Blue Mountains also proceeded with the *Combined EA Master Plan for Craigleith, Castle Glen and Osler* (MacViro, 2006), which established the servicing requirements for the development lands associated with Craigleith, Castle Glen and Osler. The preferred servicing strategy for Alta Phase II was established in the Master Plan EA.

3.0 SITE DESCRIPTION

The Subject Lands are physiographically distinguished by five areas: the Escarpment face located at the southwest portion of the development lands, an intermediate plateau on which proposed Street ‘C’ and Lots 44 – 55 are located, an intermediate ridge located immediately east of Street ‘C’, and the “flatlands” on which the balance of the development will occur. The Nipissing Ridge is also located north and east of the “flatlands” which abuts Hidden Lake Road and Craigleith Provincial Park. The Subject Lands generally fall from south to north, with gradients ranging from 2% within the flatlands to approximately 30% across the Escarpment face and Nipissing Ridge lands. Refer to **Figure 2** for the proposed development layout, site topography and existing configuration of adjacent lands.

Existing access to the Subject Lands is provided by a single farm lane off Hidden Lake Road which traverses the face of the Nipissing Ridge. The laneway provides access to two existing agricultural structures currently located on-site. These structures were used in the past during agricultural operations across the flatlands. These lands are currently idle and not actively used for agricultural operations.

The soils on site are classified as Dunedin Clay and Kemble Silty Clay (Soil Survey Complex, 2019). These soils are classified as Hydrologic Soil Groups D and C, respectively.

4.0 ROAD STANDARD

Access to the site will be provided via Alta Road and Hidden Lake Road. Alta Road is proposed to be extended northwest from its westerly terminus in Phase I to Hidden Lake Road.

Within the development, there is one north-south road (Alta Road) and two looped roads (Street B and C). Alta Road will be constructed according to Town standards with a 20.0 m urban Right-of-Way (ROW) and 8.5 m pavement width complete with mountable curb and gutter. Due to the large lots and character of the development, Street B and C will be constructed according to Town standards with a 20.0 m rural ROW and 6.0 m pavement width. The pavement structure for the roadways will be constructed as per municipal standards and recommendations of the geotechnical engineer. Street C will also have five cross culverts to convey external drainage.

A 2.0 m wide sidewalk was constructed within the boulevard of Alta Road within Phase 1 from Hemlock Court to the temporary turning circle. It is proposed to continue the 2.0 m wide sidewalk along Alta Road to Hidden Lake Road per the typical road standard used in Phase I.

The reader is directed to the Traffic Impact Study (C. F. Crozier & Associates Inc., February 2022) submitted under separate cover, which identifies future operating conditions of the boundary road network surrounding the development.

5.0 SANITARY SERVICING

5.1 Existing Sanitary System Infrastructure

Sanitary Servicing Background

The *Combined EA Master Plan for Craigleith, Castle Glen and Osler (MacViro*, 2006*)* and *Addendum to the Phase 2 Comprehensive ESR* (MacViro, 2005) provides the framework for the sanitary servicing in Alta Phase II.

The above-mentioned reports recommended the Hidden Lake area, consisting of Alta Phase II, Ward's Road, and Hidden Lake Road, should be serviced as part of the Craigleith Service Area. The Craigleith Wastewater Treatment Plant (WWTP) is currently operating at 42% of the built capacity (2020 Town of The Blue Mountains Year End Water & Wastewater Capacity Assessment). It is understood there is an uncommitted reserve capacity within the WWTP to accommodate the 60 residential lots of Alta Phase II.

The Hidden Lake area, including Alta Phase II, has been studied through the initiation of an Environmental Assessment (EA) by the Town. Preliminary EA findings have suggested the proposed area is to be serviced via a proposed SPS situated at the intersection of Hidden Lake Road and Highway 26, ultimately pumping flows east to the Craigleith Sewage pumping station. However, the timeline to complete the EA and construct the infrastructure identified as the preferred alternative is unknown and is very likely still many years away. The proposed sanitary servicing strategy for the Subject Lands will allow development to proceed in advance of the Town completing the Hidden Lake Road improvements, without impeding the Town's ability to complete the EA. The proposed strategy is outlined in more detail in Section 5.2.

Existing Sanitary System Infrastructure

There is an existing 200 mm diameter sanitary stub in Alta Phase I at the northwesterly terminus of Alta Road. This 200 mm diameter sanitary sewer drains to the Alta Phase I SPS on Oak Court, which then pumps sewage to the Margaret Drive SPS.

Presently, the Margaret Drive SPS receives sewage from Alta Phase 1, Alpine Flatlands Phase I and II, Arrowhead Crescent and Alpine Ski Club. The sewage is pumped to a 200 mm diameter gravity sewer located further south and east on Sleepy Hollow Road. Previously, the Town had considered decommissioning the Margaret Drive SPS in the future upon completion of a trunk gravity sewer through the Georgian Woodlands Phase IV lands. Said sewer would connect to the existing 450 mm diameter sanitary sewer located on Old Lakeshore Road, which conveys sewage to the Craigleith Pump Station.

However, recent discussions with the Town indicate that the Margaret Drive SPS may not be decommissioned and would continue to convey sewage from developments in the area, including future phases of the Georgian Woodlands development. The capacity of the downstream sanitary sewer infrastructure will be assessed during detailed design to identify any required external improvements.

5.2 Proposed Sanitary Servicing Strategy

There were two (2) internal sanitary servicing strategies considered for Alta Phase II. They are described below.

Option 1: New Pumping Station on Alta Phase II

Option 1 consists of providing a network of gravity sewers within the development that drain towards a new SPS located within Block 61 south of the existing ridge and bordering on Lot 9. The new SPS would pump flows to the existing sanitary system in Alta Phase 1 and ultimately to the Margaret Drive SPS. If a future SPS at Hidden Lake Road and Highway 26 is constructed and gravity services are extended along Hidden Lake road in the future, the Alta Phase II sanitary sewers could be connected to the permanent SPS through Hidden Lake Road. The proposed SPS in Alta Phase II could then be decommissioned by the Town if so desired.

Option 2: Combination of Gravity and Low-Pressure Forcemain Sewers

Option 2 consists of providing a combination of gravity and low-pressure forcemain sewers within the development that drain towards the existing sanitary system in Alta Phase I. Lots 44 – 55 would be serviced by gravity and the remaining lots would be serviced by low-pressure forcemain due to the natural grading of the Subject Lands. The sanitary flows would then be conveyed to the Alta Phase I SPS and ultimately the Margaret Drive SPS.

Proposed Sanitary Servicing Solution

Option 1 was chosen as the preferred sanitary servicing solution for the Subject Lands. It allows for the original sanitary servicing strategy for the Subject Lands to be implemented.

Internal sanitary servicing for the Subject Lands will be provided via a network of gravity sewers that follow the alignment of the internal roadways and drain to the proposed SPS within the SWM Facility block. Sanitary sewers will be designed and constructed in accordance with Town design standards, at a size and depth sufficient to service each lot and building. Refer to **Figure 3** for the internal sanitary sewage conveyance system. Refer to **Figure 4** for the external sanitary sewage conveyance system.

Preliminary sanitary flows for the site were estimated using Town standards. Applicable design criteria have been summarized in **Table 1**.

Table 1: Sanitary Design Criteria

Criteria	Standard
Average Flow Rate (L/cap/day)	450
Infiltration (L/s/ha)	0.23
Peaking Factor (Harmon Formula)	4.19
Population Density (PPU)	2.3

Based on the above criteria and the proposed unit total, it is estimated that peak sanitary flow from the Subject Lands is 6.84 L/s. Sanitary flow calculations have been provided in **Appendix A**.

Both the Alta Phase 1 SPS on Oak Court (originally designed to service Phase II Lands) and the Margaret Drive SPS (currently operating less than 20% capacity, based on discussions with the Town) have the capacity to service the proposed lands. The capacity of the downstream gravity sewer infrastructure from the outlet of the Margaret Drive SPS would be confirmed at the detailed design stage and external sewer improvements (if any) identified in consultation with the Town.

6.0 WATER SERVICING

6.1 Existing Water System Infrastructure

Water supply for the Subject Lands will be supplied by the Thornbury Water Treatment Plant (WTP), which also services areas within Thornbury, Clarksburg, Camperdown, Lora Bay, Swiss Meadows and Craigleith. The WTP is owned by the Town of The Blue Mountains.

The Thornbury WTP has a capacity of 15,140 m^3/day, with an additional 1,250 m^3/day water supply available from the Town of Collingwood. There is currently a demand of 11,057 m^3/day connected or allocated to the water system, with an additional 2,988 m^3/day reserved. This leaves 2,345 m^3/day of water supply available (2020 Town of The Blue Mountains Year End Water & Wastewater Capacity Assessment).

An existing 200 mm diameter watermain stub currently exists at the northwesterly terminus of Alta Road. A 150 mm diameter watermain is located along Hidden Lake Road and services the existing lots fronting Hidden Lake Road.

6.2 Proposed Water Servicing Strategy

The proposed servicing solution for the Subject Lands will be to connect to the existing 200 mm diameter watermain on Alta Road and 150 mm diameter watermain on Hidden Lake Road.

The internal watermain distribution system will follow the alignment of the internal roadways complete with individual service connections for each lot and building. Fire hydrants will be spaced as required to provide the necessary fire protection and to meet municipal standards. The preliminary water distribution layout has been presented in **Figure 5**.

Preliminary water demands for the Subject Lands have been estimated in conjunction with Town standards that concur with Table 3-1 of the Ministry of Environment, Conservation and Parks (MECP) Design Guidelines for Drinking Water Systems. Applicable design criteria have been summarized in **Table 2** below.

Table 2: Watermain Design Criteria

Criteria	Standard
Average Flow Rate (L/cap/day)	450
Maximum Day/Peak Hour	2.0/4.5
Single Family Density (PPU)	2.3

The following water demands have been calculated for the Subject Lands per Town standards identified above:

- Average Daily Flow Rate – 0.72 L/s
- Max Daily Flow Rate – 1.44 L/s
- Peak Hour Flow Rate – 3.23 L/s

Refer to **Appendix B** for the water demand calculations.

Streets B and C will have a minimum 150 mm diameter watermain installed and looped back to the 200 mm diameter main on Alta Road. This sizing will be subject to completing a distribution analysis during the detailed design process to verify that maximum day demands, and fire flow requirements are met.

<u>Fire Flow Estimates</u>

Per municipal requirements, the Water Supply for Fire Protection, A Guide to Recommend Practice (Fire Underwriters Survey (FUS), 1999) was used to estimate fire flows for the Subject Lands. Fire flow demand was calculated based on a collection of single detached residential dwellings two (2) stories in height or less with minimum setbacks of 3m. As per the FUS Calculation Note J, the proposed fire flow was calculated using the short method. The required fire flow for the development is approximately 67 L/s. Fire flow calculations have been provided in **Appendix B**. Fire hydrant testing may be completed during detailed design to confirm that sufficient fire flows are available.

7.0 STORMWATER MANAGEMENT

SWM and drainage conditions for the proposed development must comply with the policies and standards of:

- The Town of The Blue Mountains (Town);
- The Grey Sauble Conservation Authority (GSCA); and,
- The Ministry of the Environment, Conservation and Parks (MECP).

The stormwater management criteria that will be met with the development of Alta Phase II are as follows:

- Water Quantity Control
  - "Post to pre" control for storms up to and including the 100-year storm event.

- Water Quality Control
  - "Enhanced Protection" given Georgian Bay as the ultimate receiver.

- Erosion Control
  - 24-hour detention of the 25mm event runoff.

- Development Standard
  - Urban cross section complete with 5-year storm sewer;
  - Rural cross section complete with complete with ditches with 3:1 side slopes;
  - Lot grading at 2% optimum; and
  - Minor and major drainage systems to convey frequent and infrequent rainfall/runoff events respectively.

7.1 Existing Drainage Conditions

As indicated in Section 2.0, the Subject Lands are located within Subwatersheds 21 and 22 as identified in the CCSS and illustrated in **Figure 6.** Field reconnaissance conducted by Crozier staff in 2007 suggests that the western portions of Subwatershed 21 and eastern portions of Subwatershed 22 drain to Georgian Bay via separate outlets. Consequently, a new subwatershed, referred to as Subwatershed 21A, that bisects Subwatersheds 21 and 22 has been delineated. **Figure 6** illustrates both the original GSCA (1993) and above-noted revised subwatershed boundaries.

Generally, drainage from the Subject Lands (and the upgradient Niagara Escarpment) shed in a northerly direction toward Hidden Lake Road, concentrating at three (3) locations. These are identified and described in this report as Outlet A, B and C. The drainage areas which contribute to these outlets are delineated in **Figure 7** and discretized to facilitate hydrologic modelling. The following sections describe the existing drainage conditions associated with each outlet.

Outlet A

The contributing area to Outlet A is approximately 13.2 ha and extends from the tablelands of the Escarpment to Hidden Lake Road. The contributing area has been discretized into five sub-catchments, EXT-1 – EXT-3, INT-1, and INT-4, as illustrated in **Figure 7**. Outlet A directs drainage to an existing 825 mm dia. culvert beneath Hidden Lake Road. Outlet A is located within Subwatershed 22.

Subcatchments EXT-1, EXT-2, and EXT-3 contribute drainage from the Escarpment face and reach the proposed development lands as sheet flow within incised channels. A series of manmade ditches located on the flatlands of the site direct the drainage towards Hidden Lake Road. Subcatchment INT-4 also contributes drainage from the toe of the escarpment slope via sheet flow and incised channels to the above-noted interceptor ditches. These interceptor ditches were constructed during historic agricultural operations and extend across subcatchment INT-1 to the existing 825 mm dia. culvert beneath Hidden Lake Road. It should be noted that a portion of subcatchment INT-1 consists of sheet flow drainage from the flatlands located on the south side of Hidden Lake Road. The existing 825 mm dia. culvert conveys runoff across Hidden Lake Road towards a low-lying and poorly drained area before reaching Highway 26 and Georgian Bay. A detailed description of the drainage corridor north of Hidden Lake Road is described in Section 8.0 (External Drainage Corridor Analysis).

Outlet B

The contributing area to Outlet B is approximately 11.2 ha. Similar to Outlet A, the drainage area extends from the tablelands of the Escarpment to Hidden Lake Road and consists of four subcatchments: EXT-4, INT-2, INT-5 and UNC-3. Outlet B directs drainage to an existing 900 mm dia. culvert beneath Hidden Lake Road. Outlet B is located within Subwatershed 22.

Subcatchments EXT-4 and INT-5 contribute sheet flow from various portions of the Escarpment face to a manmade agricultural ditch extending from the upstream limit of subcatchment INT-2 across the flatlands to an existing 900 mm dia. culvert beneath Hidden Lake Road. Subcatchment UNC-3 contributes both sheet flow and concentrated flow from the face of the Nipissing Ridge.

The existing farm laneway that extends from Hidden Lake Road to the top of the Nipissing Ridge acts as a drainage divide between the areas contributing to Outlet B and C. Interceptor ditches along each side of the laneway direct the intercepted sheet flow to the Hidden Lake Road drainage corridor. The west interceptor ditch ultimately directs drainage to Outlet B. The east ditch directs drainage to Outlet C.

Outlet C

The contributing area to Outlet C is approximately 14.0 ha. The drainage area extends to the tablelands of the Escarpment and consists of four subcatchments: EXT-5, INT-3, INT-6 and UNC-4. Outlet C directs drainage to Watercourse 21A and is located in Subwatershed 21A.

Subcatchments EXT-5 and INT-6 contribute drainage from the Escarpment face, which reaches subcatchments INT-3 and UNC-4 as sheet flow within incised channels. Drainage from these subcatchments ultimately reaches Watercourse 21A at the 90-degree bend of Hidden Lake Road.

Watercourse 21A was identified by Crozier as a drainage feature independent of Watercourse 21 as originally identified in the CCSS. Originally, the CCSS suggested that Watercourse 21A combines with Watercourse 21. Based on a review of watershed topography and field reconnaissance, it was confirmed that Watercourse 21A drains directly to Georgian Bay along the east roadside ditch of Hidden Lake Road and through the Craigleith Provincial Park north of Highway 26.

Also evident from the field reconnaissance and watershed topography is the proximity of Watercourse 21A to a tributary of Watercourse 21 in the vicinity of the 90-degree bend at Hidden Lake Road. Given the topography in this area and geometry of Watercourse 21A, spill flow conditions may occur towards Watercourse 21 during large storm events.

7.2 Proposed Drainage Conditions

The proposed development will be constructed to a fully urbanized system complete with curb and gutter and storm sewers on Alta Road. Street B and C will have rural cross-sections complete with ditches with 3:1 side slopes. A dual drainage approach will consist of minor and major stormwater flow routes to ensure adequate conveyance for runoff. The minor drainage system will consist of storm sewers, catchbasins and ditches sized to convey the 5-year design storm event, per municipal standards. The major drainage system will provide overland flow routes within the road allowance.

In order to meet the SWM criteria, the minor and major storm flows will be conveyed to a SWM facility located in the northeast corner of the site within block 62 on “Street B”, to be treated and controlled prior to being released. The SWM facility will provide the necessary water quality, quantity and erosion controls. , The proposed pond design and location is presented in **Figure 10**. The SWM facility outlet structure will consist of three outlets to discharge the treated runoff. The proposed outlets will be constructed under “Street B” to an engineered conveyance channel proposed along the existing farm laneway toward Hidden Lake Road. The proposed SWM pond outlet will include an orifice for extended detention, a rectangular weir to convey active storage flows, and a culvert receiving flows conveyed over the proposed SWM pond spillway. The culvert downstream of the proposed spillway will be sized to convey regional flows at the detailed design stage. The outlets will discharge to the engineered conveyance channel and will convey treated stormwater north to the existing 900 mm dia. CSP culvert at Hidden Lake Road (Outlet B).

Preliminary site grading has been completed to ensure that the proposed minor and major storm drainage systems to the SWM facility are feasible. The post-development drainage plan and preliminary site grading plan are provided as **Figures 8** and **9**, respectively.

A series of interceptor ditches are proposed to manage both external and internal runoff and direct it to the appropriate outlets. The proposed locations, alignments and cross-sectional configurations of these ditches have been incorporated into the development and are illustrated in **Figure 9**.

As illustrated in **Figure 8**, the drainage areas contributing to each outlet will have minor modifications in post-development conditions. The following sections describe the proposed drainage conditions associated with each outlet.

<u>Outlet A</u>

The drainage area contributing to Outlet A is reduced from 13.2 ha to 4.5 ha as a result of a series of interceptor ditches and conveyance of runoff across the Subject Lands. This will improve downstream drainage capacity issues. In post-development conditions, Outlet A is located within Subwatershed 22 and consists of three (3) subcatchments: EXT-1, INT-3, and UNC-1.

<u>Outlet B</u>

The drainage area contributing to Outlet B will increase from 11.2 ha to 22.80 ha. This is primarily a result of regrading the site and controlling the runoff within the SWM facility. The SWM facility will drain to the existing 900 mm dia. cross-culvert, respecting its capacity. The stormwater quantity and quality control requirements and preliminary configuration of the proposed SWM facility are described in

Sections 7.3 and 7.4, respectively. In post-development conditions, Outlet B is located within Subwatershed 22 and consists of eight (8) subcatchments: EXT-2, EXT-3, INT-1, INT-2, INT-4, UNC-2, UNC-3 and the SWM Facility.

Outlet C

The drainage area contributing to Outlet C will decrease from 14.0 ha to 11.0 ha. In post-development conditions, Outlet C is located in Subwatershed 21A and consists of four (4) subcatchments: EXT-4, EXT-5, INT-5 and UNC-4. Drainage from subcatchments EXT-4 and EXT-5 will be conveyed via interceptor ditches along the southwest limit of the Subject Lands and directed to Watercourse 21A. Similarly, subcatchment INT-5 will convey a nominal drainage area, consisting only of Escarpment slope, directly to Watercourse 21A. The balance of the area contributing to Outlet C in post-development conditions consists of the Nipissing Ridge, located at the northeast corner of the Subject Lands.

7.3 Hydrologic Analysis

Hydrologic modelling was prepared for the pre-development and post-development scenarios using the stormwater management hydrologic computer program SWMHYMO (Sabourin, 1998). The purpose of the modelling was to determine the detention storage volumes required for the Subject Lands to ensure post-development peak flow rates do not exceed the pre-development target flows (i.e. quantity control). Three points of interest (Outlets A, B and C) were examined.

To accurately assess the peak flows from the individual catchments, the NASHYD command in SWMHYMO was used to model rural conditions, whereas the STANHYD command was used to model urban development conditions. 2, 5, 10, 25, 50 and 100-year rainfall events were simulated using a six-hour Keifer Chu, 12-hour SCS Type II and 24-hour SCS Type II consistent with municipal design standards and GSCA requirements.

The hydrologic parameters and the SWMHYMO model input and output files are found in **Appendix C** and **D**, respectively. The SWMHYMO model schematics for pre- and post-development conditions can be found in **Appendix D**.

To evaluate water quantity and quality control requirements, the hydrologic model was established to produce peak flows at the three outlet locations based on the pre- and post-development drainage plans provided as **Figures 7** and **8**, respectively. The hydrologic model was then extended to facilitate the external drainage corridor analysis, which is described in Section 8.0.

7.3.1 Pre-Development Model Setup

To establish pre-development flows, the contributing drainage areas to each outlet were first subdivided into internal and external drainage areas. Catchments INT-1 – INT-6 and UNC-3 and UNC-4 consist of the Subject Lands and catchment EXT-1 – EXT-5 consist of the external drainage areas. Refer to **Figure 7** for the Pre-Development Drainage Plan and **Appendix C** for hydrologic parameter sheets.

Table 3 summarizes the pre-development peak flows rates obtained from the SWMHYMO model.

Table 3: Summary of Pre-Development Flow Rates

Return Period (Years)	Pre-Development Flow Rates (m^3/s)		
	Outlet A (13.20 ha)	Outlet B (11.2 ha)	Outlet C (14.0 ha)
6 Hour Keifer Chu			
2	0.26	0.19	0.19
5	0.50	0.37	0.37
10	0.76	0.57	0.58
25	0.98	0.75	0.76
50	1.10	0.85	0.85
100	1.36	1.05	1.07
12 Hour SCS Type II			
2	0.33	0.20	0.20
5	0.70	0.44	0.45
10	1.01	0.64	0.64
25	1.43	0.91	0.91
50	1.75	1.12	1.13
100	2.09	1.34	1.35
24 Hour SCS Type II			
2	0.37	0.24	0.24
5	0.73	0.47	0.47
10	0.97	0.63	0.63
25	1.36	0.88	0.89
50	1.63	1.06	1.07
100	1.99	1.30	1.31
Regional (Timmins)	1.21	1.00	1.05

Pre-development SWMHYMO input and output files have been provided in **Appendix D.**

7.3.2 Post-Development Model Setup

The post-development model was prepared by replacing the pre-development catchments from the pre-development model with the post-development catchments identified in Section 7.2. Refer to **Figure 8** for the Post-Development Drainage Plan and **Appendix C** for hydrologic parameter sheets.

The proposed SWM Facility will be a stormwater management wet pond located on the northeastern side of the development that will provide the required stormwater quantity, quality and erosion controls. The stormwater facility will ultimately convey flows to Outlet B. The drainage area contributing to Outlet B has increased under proposed conditions; therefore, additional analysis was completed to assess regional flows downstream of Outlet B. The watercourse downstream of Outlet B flows between several existing residential dwellings north of Hidden Lake Road before being conveyed to the existing low-lying area to the north. The cross-section of the receiving channel was adopted from the topo performed on September 10, 2021 by Joe Topo. Analysis of the channel cross-section using Bentley FlowMaster (V8i) shows the channel can convey up to 1.13m^3/s without overtopping the channel banks. Therefore, the SWM facility will be designed to control the 100-yr and Regional flows below 1.13m^3/s to avoid negative impacts to the downstream properties at Outlet B.

A preliminary outlet structure has been designed as a multi-stage outlet to address both quality and quantity control requirements. The outlet structure will consist of a 120 mm diameter extended detention orifice positioned at the permanent pool elevation. A secondary orifice has been included above the extended detention storage elevation to control discharge from the pond for storms exceeding the 25 mm event. Storm events in excess of the 100-year event will be stored in the facility and safely conveyed downstream via an emergency spillway.

The ROUTE RESERVOIR routine was used to determine the volume of detention storage required to attenuate the post-development peak flows discharging to Outlet B to below pre-development levels. To meet quantity control requirements, it was concluded that approximately 7,652 m^3 of active storage is required to attenuate the peak flow from the 100-year event to below pre-development levels and approximately 10,360m^3 of storage is required to control the regional flows below the maximum capacity of 1.13m^3/s provided in the downstream channel.

The results of the post-development model are summarized in **Tables 4** and **5** below.

Table 4: Summary of SWM Facility Storage Volumes

Return Period (Years)	Active Storage Required (m^3)		
	6 Hour Keifer Chu	12 Hour SCS Type II	24 Hour SCS Type II
2	2248	2179	2344
5	3528	3434	3636
10	4850	4425	4451
25	5929	5523	5578
50	6476	6385	6384
100	7652	7279	7421

Table 5: Summary of Pre- and Post-Development Flow Rates

Return Period (Years)	Outlet A		Outlet B		Outlet C	
	Pre-Development (13.2 ha)	Post-Development (4.5 ha)	Pre-Development (11.2 ha)	Post-Development (22.80 ha)	Pre-Development (14.0 ha)	Post-Development (11.0 ha)
6 Hour Keifer Chu						
2	0.26	0.10	0.19	0.10	0.24	0.13
5	0.50	0.18	0.37	0.18	0.47	0.27
10	0.76	0.27	0.57	0.29	0.63	0.42
25	0.98	0.34	0.75	0.39	0.89	0.56
50	1.10	0.38	0.85	0.45	1.07	0.64
100	1.36	0.47	1.05	0.59	1.31	0.81
12 Hour SCS Type II						
2	0.33	0.11	0.20	0.12	0.20	0.14
5	0.70	0.24	0.44	0.25	0.45	0.31
10	1.01	0.34	0.64	0.36	0.64	0.45
25	1.43	0.47	0.91	0.52	0.91	0.65
50	1.75	0.58	1.12	0.63	1.13	0.82
100	2.09	0.69	1.34	0.77	1.35	0.99
24 Hour SCS Type II						
2	0.37	0.13	0.24	0.14	0.24	0.16
5	0.73	0.25	0.47	0.26	0.47	0.33
10	0.97	0.33	0.63	0.34	0.63	0.44
25	1.36	0.45	0.88	0.49	0.89	0.63
50	1.63	0.54	1.06	0.60	1.07	0.77
100	1.99	0.66	1.30	0.75	1.31	0.97
Regional (Timmins)	1.21	0.42	1.00	1.08	1.05	0.81

As evidenced by **Tables 4** and **5**, 'Post-to-Pre' quantity control has been provided for all storm events up to and including the 100-year event for all outlets. Safe conveyance of the Regional event has been provided at Outlet B (SWM Facility).

The post-development Regional peak flows have decreased at both Outlet A and C. As outlined in Section 8.0, the infrastructure downstream of Outlet A and C is deficient under existing conditions. The existing culverts downstream of Outlet B have sufficient capacity for larger storm events, up to and including the 100-year event, except for Culverts 2 and 6, which have capacity for storms up to and including the 50-year event. Therefore, by diverting Regional peak flows in post-development conditions to Outlet B, the overall flood potential is reduced at Outlet A and C. SWMHYMO post-development output files have been provided in **Appendix D.**

7.4 Water Quality & Erosion Control

An end-of-pipe SWM Facility will provide stormwater quality control to an Enhanced Protection Level (Stormwater Management and Design Manual, MECP, 2003) and appropriate erosion control. A comparison between the provided and required volumes for permanent pool and extended detention have been provided in **Table 6.**

Erosion control will be principally achieved by incorporating the erosion control requirements into the extended detention operation of the proposed stormwater management facility. Sizing was based on providing 24-hour drawdown of the runoff volume produced during a 25 mm design storm event. Based on a contributing drainage area of 19.7 ha, the required water quality volume for a wet pond is 105 m^3/ha to provide an enhanced level of treatment (Stormwater Management and Design Manual, MECP, 2003). This water quality volume consists of 65 m^3/ha for permanent pool and 40 m^3/ha for extended detention, respectively. The required and provided water quality volumes have been summarized in **Table 6** below. Refer to **Appendix E** for relevant water quality and extended detention calculations.

Table 6: SWM Facility Quality Control Characteristics

	Required Volume (m3)	Provided Volume (m3)
Permanent Pool	1281	1350
MECP Extended Detention	788	1290
Erosion Control	1290	1290

7.5 Stormwater Management Facility Operating Characteristics

Taking into account the water quantity and quality storage requirements, a preliminary design for the SWM Facility has been completed to demonstrate that the SWM block is adequately sized. A preliminary operating profile of the SWM Facility is presented in **Table 7** below.

Table 7: SWM Facility Operating Characteristics

Component	Elevation (m)	Storage Required (m^3)	Storage Provided (m^3)
Bottom	215.15	---	---
Permanent Pool	216.05	1281	1350 (dead storage)
Extended Detention	216.25	1290	1290
100-Year High Water Level	217.55	7652	7900
Top of Berm	218.75	---	13600

As evidenced by **Table 7** the pond presented herein is sufficiently sized to provide the required stormwater quantity and quality controls.

The outlet control structure will be located at the north end of the proposed SWM facility and will include 3 culvert crossings on “Street B” prior to being discharged to a proposed engineered conveyance channel. The channel will extend north along the west side of the existing farm laneway and discharge into the existing 900 mm CSP culvert crossing at Hidden Lake Road (Outlet B). Outlet B is the nearest suitable location to discharge stormwater from the Subject Lands, as determined through field reconnaissance and existing topography.

Details with respect to the operation of the SWM facility including specific inverts, detailed grading, inlet locations, sediment forebays, and control structures will be specified during detailed design. Permits and other regulatory instruments such as an Environmental Compliance Approval (MECP) and GSCA approval will be secured prior to construction.

The preliminary design of the SWM Facility has been presented in **Figure 10.** Refer to **Appendix E** for relevant SWM facility calculations.

8.0 EXTERNAL DRAINAGE CORRIDOR ANALYSIS

As indicated in the introduction (Section 1.0), the Town previously requested that the drainage corridor downstream of the Subject Lands be evaluated to determine the conditions of the existing corridor, identify deficiencies, and recommend upgrades. Given the location of the Alta Phase II lands within Subwatersheds 21A and 22, the external drainage corridor analysis presented herein is limited to these subwatersheds.

The objectives of the external drainage corridor analysis are to evaluate the conditions of existing hydraulic structures within the respective subwatersheds and to determine their hydraulic capacities to:

- Demonstrate that there are no negative impacts to the external conveyance corridor as a result of the proposed development of the Subject Lands;
- Determine if the existing structures have sufficient capacity to meet the requirements stipulated in the Ministry of Transportation's Directive B-100; and,
- Provide recommendations for upgrades and/or maintenance to existing structures.

As discussed in Section 7.0, water quantity control has been incorporated into the overall SWM strategy of Alta Phase II to ensure that post-development peak flow rates are below pre-development levels at the various outlet locations. Therefore, the downstream drainage corridor analysis presented herein is limited to the post-development drainage conditions scenario upon full build-out of Alta Phase II.

The drainage analysis involved a review of background information, field reconnaissance, supplementary topographic and structure survey, an extension of hydrologic modelling, and detailed hydraulic calculations. A detailed description and summary of results for each of the elements of the analysis are described for the respective study subwatersheds below.

8.1 Subwatershed 21A

As explained in Section 7.0, field reconnaissance conducted by Crozier staff identified drainage patterns within Subwatershed 21, which differed from that reported in the CCSS. To address the observed drainage patterns, a new subwatershed was delineated and is referred to as Subwatershed 21A in this report. Drainage from a portion of Subwatershed 21A was described in detail in Section 7.1, however, given the subwatershed-scale scope of this supplementary analysis, additional sub-catchments were delineated to account for the entire drainage area contributing to its outlet at Georgian Bay. Refer to **Figure 11** for the post-development subwatershed plan considering the entire Subwatershed 21A drainage area. When compared to **Figure 8** (Post-Development Drainage Plan), it is important to note that additional subcatchments were introduced around the Subject Lands to account for the entire lands contributing to the outlet of Subwatershed 21A at Georgian Bay. These additional subcatchments were appended to the previously described SWMHYMO hydrologic model to provide peak flow estimates at selected points of interest.

Upon development of Alta Phase II and as illustrated in **Figure 11**, the area contributing to the outlet of Subwatershed 21A is approximately 43 ha, which includes the site and external lands. Existing residential homes fronting Hidden Lake Road and the Craigleith Provincial Park are located within the subwatershed.

Drainage from the tablelands of the Escarpment emanates as sheet flow toward Watercourse 21A, which is an incised watercourse as it traverses north across the Escarpment face. Watercourse 21A accepts additional drainage as it passes across the Subject Lands and the Nipissing Ridge. At the base of Nipissing Ridge, the watercourse follows a 90-degree bend at Hidden Lake Road (Outlet C) and flows north along the east side of Hidden Lake Road beneath six (6) driveway culverts (all 1100 mm x 700 mm CSPA) before reaching the Georgian Trail. Watercourse 21A then passes beneath Georgian Trail via a pair of 750 mm dia. CSP culverts and Highway 26 via a 1650 mm by 1020 mm CSPA culvert before discharging to Georgian Bay at the north limit of Craigleith Provincial Park.

As noted in Section 7.1, the possibility of spill flow conditions exists from Watercourse 21A to Watercourse 21 via a broad draw extending from the forested area near the 90-degree bend at Hidden Lake Road to Watercourse 21. It is speculated that prior to the construction of the sewage leaching bed for Craigleith Provincial Park, this may have been the original drainage route of Watercourse 21A. (Watercourse 21 conveys drainage beneath the Georgian Trail via a 1600 mm by 900 mm CSPA culvert and beneath Highway 26 via a 1.25 m by 2.45 m concrete box culvert).

Hydrologic Modeling & Results

The SWMHYMO hydrologic model prepared for the Subject Lands was extended to account for the entire drainage area contributing to the outlet of Subwatershed 21A. Additional sub-catchments were appended to the post-development drainage plan, as reflected in **Figure 11**, resulting in a total subwatershed area of approximately 43 ha.

The hydrologic model produced peak flows at two points of interest: Outlet C and the subwatershed outlet at Georgian Bay. The peak flow established at the subwatershed outlet was utilized to evaluate the hydraulics of the existing culverts beneath Georgian Trail and Highway 26. The culverts within Craigleith Provincial Park were not analyzed as they are located near the outlet of the subwatershed and on lands not owned by the municipality.

The additional hydrologic parameters and the SWMHYMO model input and output files are found in **Appendix C** and **D**, respectively. Results from the hydrologic modelling for the 2-year and 100-year storm events are summarized in **Table 8**, and the results from the remainder of the storm events are contained in the model output files.

Table 8: Summary of Subwatershed 21A Post-Development Peak Flows (m^3/s)

Return Period (Years)	KCHU		SCS12		SCS24	
	Outlet C (36.1 ha)	Subwatershed 21A Outlet (43.1 ha)	Outlet C (36.1 ha)	Subwatershed 21A Outlet (43.1 ha)	Outlet C (36.1 ha)	Subwatershed 21A Outlet (43.1 ha)
2	0.48	0.61	0.47	0.59	0.56	0.70
100	2.85	3.51	3.17	3.87	3.09	3.77

The peak flows listed in **Table 8** were used in conjunction with the hydraulic calculations described below to evaluate the hydraulic condition and capacity of the culverts downstream of the Subject Lands to the outlet at Georgian Bay.

Hydraulic Modeling & Results

The major drainage corridors within Subwatershed 21A were described above. The location and size of the main hydraulic structures located along the drainage corridors are identified in **Figure 11**. Each culvert was surveyed to determine its size, extent, and relationship to adjacent ground elevation. Photographs of each of the structures were also taken to document the existing conditions and recommend maintenance or improvements.

The hydraulic capacity of each of the structures was computed using the CulvertMaster computer model and compared to the peak flows generated using SWMHYMO as presented in **Table 8**. Input data into the CulvertMaster model includes the size of the hydraulic structure, type of material, upstream and downstream invert elevation, tailwater elevation and maximum headwater elevation.

To determine the tailwater conditions, a FlowMaster model was used to compute the depth of flow at natural channel sections immediately downstream of each hydraulic structure. The resulting normal depth was then inputted into the CulvertMaster model as the tailwater elevation to establish whether the culvert will operate as inlet or outlet control under a given peak flow condition.

Results from the hydraulic calculations are presented in **Appendix F** and summarized on the culvert data sheets found in **Appendix G**. The summary sheets include culvert identification and location, characteristic hydraulic rating curves, return period capacity, photographs and key dimensions. A summary of the results from the hydraulic analysis of structures within Subwatershed 21A is listed in **Table 9**.

Table 9: Summary of Hydraulic Structure Characteristics Within Subwatershed 21A

Culvert ID	Culvert Location	Culvert Size / Type	Maximum Capacity *(m^3/s)*	100-Year Peak Flow[1] *(m^3/s)*	Return Period Capacity
9	All Private Driveways (East side of Hidden Lake Road)	1100 x 700 mm CSPA (typ.)	0.5	3.14	< 2 Year
10	Georgian Trail	2 x 750 mm CSP	1.1	3.84	< 5 Year
11	Highway 26	1650 x 1020 mm CSPA	2.7	3.84	< 50 Year

Note: Return Period Capacity based on conservative peak flows without considering potential spill flow analysis to Watercourse 21.
[1]100-year peak flow from 12-hour SCS Type II storm (largest flow).

It is evident from **Table 9** that the hydraulic capacities of all structures located along the drainage corridor of Subwatershed 21A are below the 100-year peak flows at the respective locations. Culvert No. 9 represents a series of six driveway culverts along the east side of the Hidden Lake Road right-of-way which are all similar in shape and hydraulic characteristics. In general, these driveway culverts have capacities less than the 2-year storm event. Although it is preferable that the driveway culverts convey flows of at least the 2-year event, replacement or improvement of these culverts is at the discretion of the Town. Improvements such as the construction of headwalls and annual maintenance should be considered to optimize their hydraulic capacities.

Culvert No. 11 conveys runoff beneath Highway 26 and has greater capacity than the other structures. It can convey the 25-year storm event as required by the MTO Drainage Directive B-100.

Based on the above hydraulic analysis, the entire Watercourse 21A drainage corridor downstream of the Subject Lands, except for Culvert 11, is deficient despite the slightly reduced peak flows within the corridor because of the proposed Alta Phase II development. It should also be noted that the drainage corridor is deficient in a pre-development state. Replacement of the existing culverts may be considered as a remedial measure. However, given the number of culverts and extent of reconstruction to upgrade this drainage corridor, it may be prudent to re-establish the original Subwatershed 21 boundaries by redirecting runoff from Subwatershed 21A to Watercourse 21, via the previously described spill flow route. Based on the 1.25 m by 2.45 m concrete box culvert beneath Highway 26 relative to its existing drainage area of approximately 40 ha, the use of Watercourse 21 to convey drainage from the additional Subwatershed 21A lands may resolve the existing capacity issues along the Watercourse 21A drainage corridor. Furthermore, the feasibility of this remedial strategy would have to be investigated from a technical perspective and the Town would have to enter into negotiations with the Ministry of Natural Resources, who owns the Craigleith Provincial Park. This drainage investigation should be completed during the detailed design of Hidden Lake Road to potentially reduce the construction costs associated with upgrading this drainage corridor.

Finally, all culverts within the public ROWs along Watercourse 21A were observed to be in fair operating condition with respect to inlet/outlet condition and sediment accumulation. However, annual inspection and maintenance of these structures should be considered to optimize their hydraulic capacities.

8.2 Subwatershed 22

As explained in Section 7.0, field reconnaissance conducted by Crozier staff lead to a revised delineation of Subwatershed 22 across the Subject Lands and further downstream. The external drainage corridor analysis is based on the updated subwatershed delineation and peak flows generated from the current hydrologic modelling. Refer to **Figure 11** for a delineation of Subwatershed 22 and its various subcatchments. Similar to that of Subwatershed 21A, additional sub-catchments were appended to the previously described SWMHYMO hydrologic model to provide peak flow estimates at selected points of interest from the Subject Lands to the outlet at Georgian Bay.

Under post-development conditions, the area contributing to the outlet of Subwatershed 22 is approximately 70 ha, which includes the Subject Lands, the Escarpment face, the Nipissing Ridge, and the Hidden Lake area. Existing single-family residential lots and a condominium development are located below the Nipissing Ridge between Hidden Lake Road and James Street. The Georgian Trail and Highway 26 traverse the north portion of Subwatershed 22 which terminates at the shoreline of Georgian Bay.

Drainage from upstream external and internal lands will be directed to Outlets A and B within Subwatershed 22. A small portion of the Alta Phase II and upstream external lands will contribute to Outlet C which is located within Subwatershed 21A (see Section 7.2).

Outlet A consists of an 825 mm dia. CSP culvert and Outlet B consists of a 900 mm dia. culvert, both of which convey runoff beneath Hidden Lake Road. The runoff is then conveyed across private properties within defined watercourses before dissipating into an existing low-lying area between the base of the Nipissing Ridge and the Georgian Trail. This low area is poorly drained and measures approximately 130 m long by 30 m wide, on average. Immediately east of this low area is Hidden Lake, which accepts overflow from the low area during periods of elevated runoff. The low-lying area ultimately drains north beneath Georgian Trail and Highway 26 via a series of culverts before reaching the outlet of Subwatershed 22 at Georgian Bay.

<u>Hydrologic Modeling & Results</u>
Similar to that of Subwatershed 21A, the SWMHYMO hydrologic model was used to establish peak flows throughout Subwatershed 22. The model produced peak flows at three points of interest: Outlet A, Outlet B and the subwatershed outlet at Georgian Bay. The natural detention storage of the existing low-lying area upstream of the Georgian Trail was accounted for in the hydrologic modelling. A stage-storage-discharge relationship was developed based on available background information and incorporated into the hydrologic modelling as a ROUTE RESERVOIR routine to account for the natural attenuation.

The additional hydrologic parameters and the SWMHYMO model input and output files are found in **Appendix C** and **D**, respectively. Results from the hydrologic modelling for the 2-year and 100-year storm events are summarized in **Table 10** and the results from the remainder of the storm events are contained in the model output files.

Table 10: Summary of Subwatershed (SWS) 22 Post-Development Peak Flows (m^3/s)

Return Period (Years)	KCHU			SCS12			SCS24		
	Outlet A (4.5 ha)	Outlet B (22.8 ha)	SWS 22 Outlet (70.0 ha)	Outlet A (4.5 ha)	Outlet B (22.8 ha)	SWS 22 Outlet (70.0 ha)	Outlet A (4.5 ha)	Outlet B (22.8 ha)	SWS 22 Outlet (70.0 ha)
2	0.10	0.10	0.23	0.11	0.12	0.23	0.13	0.14	0.24
100	0.47	0.59	0.68	0.69	0.73	0.73	0.66	0.75	0.72

It is evident from **Table 10** that the natural attenuation provided in the low-lying area adjacent to the Georgian Trail significantly reduces the peak flows within the subwatershed. Although the contributing drainage area to the outlet of Subwatershed 22A is larger than Subwatershed 21A, it produces lower peak flows because there are significant natural storage areas within the watershed to dampen the peak flow, unlike Subwatershed 21A. The peak flows listed above were used in conjunction with the hydraulic calculations described below to evaluate the hydraulic condition and capacity of the culverts downstream of Subject Lands to the outlet at Georgian Bay.

Hydraulic Modeling & Results

The major drainage corridors within Subwatershed 22 were described above. The location and size of the main hydraulic structures located along the aforementioned drainage corridors are identified in **Figure 12**. Similar to the exercise described for Subwatershed 21A, each of the identified culverts were surveyed to determine their size, extent and relationship with adjacent ground elevation.

The hydraulic capacity of each of the structures was computed using the methodology described in Section 8.1 for Subwatershed 21A. Results from the hydraulic calculations are provided in **Appendix F** and are summarized on culvert data sheets found in **Appendix G**. These summary sheets include culvert identification and location, characteristic hydraulic rating curves, return period capacity, photographs and key dimensions. A summary of the results from the hydraulic analysis of structures within Subwatershed 21A is provided in **Table 11**.

Table 11: Summary of Hydraulic Structure Characteristics within Subwatershed 22

Culvert ID	Culvert Location	Culvert Size / Type	Maximum Capacity *(m^3/s)*	100-Year Peak Flow[1] *(m^3/s)*	Return Period Capacity
1	Hidden Lake Road	825 mm CSP	1.2	0.69[1]	> 100 Year
2	Private Driveway (Hidden Lake Road)	3 x 300 Conc.	0.6	0.69[1]	> 50 Year
3	Private Driveway (Hidden Lake Road)	825 mm CSP	0.9	0.69[1]	> 100 Year
4	Hidden Lake Road	900 mm CSP	1.9	0.75[2]	> 100 Year
5	Georgian Trail	825 mm CSP	1.3	0.73[1]	> 100 Year
6	Rear Yard	750 mm CSP	0.7	0.73[1]	> 50 Year
7	Private Driveway (Highway 26)	825 mm CSP	1.2	0.73[1]	> 100 Year
8	Highway 26	1500 x 900 mm CSPA	2.8	0.73[1]	> 100 Year

[1]Based on post-development conditions and implementation of SWM Facility within Alta Phase II. 100-year peak flow from 12-hour SCS Type II storm (largest flow).
[2]100-year peak flow from 24-hour SCS Type II storm (largest flow).

It is evident from **Table 11** that the hydraulic capacities of all structures located along the major drainage corridor within Subwatershed 22, except for Culvert 2 and 6, exceed the 100-year peak flows at their respective locations. However, the hydraulic capacities of Culverts 2 and 6 exceeds the 50-year peak flow. This exceeds the recommended culvert capacity requirements of MTO per Directive B-100. Replacement of these culverts with larger sizes is not warranted.

The culverts were also evaluated based on the factors that may influence their hydraulic capacities such as sediment build-up within the structure, blocked inlet and outlet from excessive vegetation or debris/sediment deposits, and damaged structures. Based on field reconnaissance conducted by Crozier staff, all culverts noted above were found to be in fair operating condition with the exception of Culvert No. 1, where significant sediment deposits were observed at the downstream end of the culvert. We recommend the cleanout of this culvert to ensure its hydraulic capacity is not compromised.

9.0 UTILITIES, SERVICES & SNOW STORAGE

The Subject Lands will be serviced with natural gas, telephone, hydro and cable TV. The design of such utilities will be coordinated with the local utility companies servicing the Town. Utilities are proposed to follow the alignment of the internal road network, with individual service connections to each lot.

The Subject Lands will also have solid waste management and mail delivery services. These services will be coordinated with local companies servicing the Town.

Snow storage areas for the Subject Lands will be specified during detailed design.

10.0 EROSION & SEDIMENT CONTROLS

All sediment and erosion controls will be installed prior to the commencement of any earthworks and maintained throughout until the site is stabilized or as directed by the Engineer, GSCA and/or Town. Controls are to be inspected regularly, after each significant rainfall and maintained in proper working condition. Erosion and sediment control measures to be considered include, but are not limited to, the following:

- Silt Fence

Silt fencing will be installed where required to intercept sheet flow. Heavy duty silt fence will be located around the perimeter of the work zone limits. It should be noted that additional silt fencing may be added based on field decisions by the Site Engineer and Owner prior to, during and following construction.

- Mud Mat

A mud mat will be installed at the main access points to the site (Hidden Lake Road and Alta Rad) to reduce the amount of mud tracking onto existing paved roadways during site servicing operations.

- Flow Check Dams

Temporary check dams will be utilized on-site to prevent any silt mitigation off-site during and after construction activities. These dams will promote the settling of suspended solids and will reduce flow velocities. Sediment accumulation will be monitored and removed as necessary.

- Dust Suppression

During earthwork activities, the Contractor will ensure that measures for dust suppression are provided as required, such as the application of water or lime.

11.0 CONCLUSIONS & RECOMMENDATIONS

Based on the foregoing, we conclude that the proposed Alta Phase II development in the Town of The Blue Mountains can be adequately serviced.

1. Access to the site will be provided via two public roadways, Hidden Lake Road and Alta Road. Municipal roads will be designed in accordance with Town of The Blue Mountains Standards.
2. The development will be serviced via a gravity sanitary sewer system that will drain to a new sewage pumping station to be constructed within Block 61. The proposed station will direct flows back to Alta Phase 1 and the Margaret Drive SPS.
3. Watermain will follow the alignment of the internal road network complete with all appurtenances and hydrants to meet Town Standards. The proposed watermain will be a looped system with connections to the existing watermains on the adjacent public streets.
4. A stormwater management facility is proposed to meet the stormwater quantity, quality and erosion control criteria, which uses Outlet B as the outlet.
5. The external drainage will be safely conveyed through the development via drainage channels to either the SWM facility or the pre-development drainage outlets.
6. The development will not aggravate drainage conditions downstream during storm events up to and including the 100-year event as demonstrated through the external drainage corridor analysis.
7. Upgrades to the drainage corridor along Watercourse 21A should be considered by the Town. Development of the Alta site will improve the existing drainage conditions in this area.
8. Utilities are available to service the site.
9. Sediment and erosion controls, as specified, will be effective in preventing and controlling sediment from migrating into nearby swales, ditches, and watercourses.

Therefore, we recommend approval of the relevant planning applications for the Subject Lands from the perspective of engineering servicing requirements.

Respectfully Submitted,

C.F. Crozier & Associates Inc.

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APPENDIX A

Sanitary Flow Calculations

CROZIER & ASSOCIATES
Consulting Engineers

File: 119-2528
Date: February 11, 2022
By: J. Kerschbaumer
Check By: G. Cooper

Alta Phase 2 Sanitary Demand

Developed Site Area	16.60	ha
Number of Residential Units		
Single Residential	60	Units
Person Per Residential Unit		
Single Residential (per TOBM Engineering Standards, 2009)	2.3	persons/unit
Total Residential Population	138	persons
Unit Sewage flows		
Residential (per TOBM Engineering Standards, 2009)	450	L/person-day
Infiltration (per TOBM Engineering Standards, 2009)	0.23	L/s/ha
Total Design Sewage Flows		
Infiltration/Inflow Residential	3.82	L/sec
Average Daily Residential Flow	0.72	L/sec
Residential Peak Factor (Harmon Formula)	4.20	
Total Peak Daily Flow	**6.84**	**L/sec**

APPENDIX B

Water Demand & Fire Flow Calculations

CROZIER & ASSOCIATES Consulting Engineers	File: 119-2528 Date: February 11, 2022 By: J. Kerschbaumer Check By: G. Cooper

Alta Phase 2 Water Demand

Developed Site Area	16.60	ha
Number of Residential Units		
Single Residential	60	Units
Person Per Residential Unit		
Single Residential (per TOBM Engineering Standards, 2009)	2.3	persons/unit
Total Residential Population	138	persons
Domestic Water Design Flows		
Residential (Per TOBM Engineering Standards, 2009)	450	L/C-day
Total Domestic Water Design Flows		
Average Residential Daily Flow	**0.72**	L/sec
Max Day Peak Factor (Per TOBM Engineering Standards, 2009)	2.00	
Max Day Demand Flow	**1.44**	L/sec
Peak Hour Factor (Per TOBM Engineering Standards, 2009)	4.50	
Peak Hour Flow	**3.23**	L/sec

Water Supply for Public Fire Protection - 1999
Fire Underwriters Survey

Part II - Guide for Determination of Required Fire Flow

1. An estimate of fire flow required for a given area may be determined by the formula:

$$F = 220 * C * \text{sqrt } A$$

Where
F = the required fire flow in litres per minute
C = coefficient related to the type of construction
= 1.5 for wood frame construction (structure essentially all combustible)
= 1.0 for ordinary construction (brick or other masonry walls, combustible floor and interior)
= 0.8 for non-combustible construction (unprotected metal structural components)
= 0.6 for fire-resistive construction (fully protected frame, floors, roof)
A = The total floor area in square metres (including all storeys, but excluding basements at least 50 percent below grade) in the building considered.

Ordinary Construction

2 number of floors — 1.0 C

500 sq.m. total floor area

Therefore F= 5,000 L/min (rounded to nearest 1000 L/min)

Fire flow determined above shall not exceed:
30,000 L/min for wood frame construction
30,000 L/min for ordinary construction
25,000 L/min for non-combustible construction
25,000 L/min for fire-resistive construction

2. Values obtained in No. 1 may be reduced by as much as 25% for occupancies having low contents fire hazard or may be increased by up to 25% surcharge for occupancies having a high fire hazard.

Non-Combustible	-25%	Free Burning	15%
Limited Combustible	-15%	Rapid Burning	25%
Combustible	No Charge		

Low fire Hazard occupancy for dwellings — 15% reduction

750 L/min reduction

Note: Flow determined shall not be less than 2,000 L/min

3. Sprinklers - The value obtained in No. 2 above maybe reduce by up to 50% for complete automatic sprinkler protection.

No Automatic Sprinklers

0 L/min surcharge / reduction

Water Supply for Public Fire Protection - 1999
Fire Underwriters Survey

Part II - Guide for Determination of Required Fire Flow

4. Exposure - To the value obtained in No. 2, a percentage should be added for structures exposed within 45 metres by the fire area under consideration. The percentage shall depend upon the height, area, and construction of the building(s) being exposed, the separation, openings in the exposed building(s), the length and height of exposure, the provision of automatic sprinklers and/or outside sprinklers in the building(s) exposed, the occupancy of the exposed building(s) and the effect of hillside locations on the possible spread of fire.

Separation	Charge	Separation	Charge
0 to 3 m	25%	20.1 to 30 m	10%
3.1 to 10 m	20%	30.1 to 45 m	5%
10.1 to 20 m	15%		

Exposed buildings

Name	Distance	Charge	Surcharge
Lot 42	35	5%	212.5
Lot 6	15	15%	637.5
Lot 3	4	20%	850
Lot 5	4	20%	850
			2,550 L/min Surcharge

Determine Required Fire Flow

No.1	5,000	
No. 2	750 reduction	
No. 3	0 reduction	
No. 4	2,550 surcharge	
Required Flow:	**6,800 L/min**	
Rounded to nearest 1000 L/min:	**7,000 L/min** or	116.7 L/s 1,849 USGPM

Determine Required Fire Storage Volume

Flow from above	7,000 L/min
Required duration	2.00 hours
Therefore:	840,000 Litres or 840 cu.m. is the required fire storage volume.

Required Duration of Fire Flow

Flow Required L/min	Duration (hours)
2,000 or less	1.0
3,000	1.25
4,000	1.5
5,000	1.75
6,000	2.0
8,000	2.0
10,000	2.0
12,000	2.5
14,000	3.0
16,000	3.5
18,000	4.0
20,000	4.5
22,000	5.0
24,000	5.5
26,000	6.0
28,000	6.5
30,000	7.0
32,000	7.5
34,000	8.0
36,000	8.5
38,000	9.0
40,000 and over	9.5

Calculation Check

Office of the Fire Marshall - Fire Protection Water Supply Guideline for Part 3 in the OBC (October 2006)

$$Q = KVS_{TOT}$$

Q =	minimum supply of water in litres (L)
K =	water supply coefficient
V =	total building volume in cubic metres
S_{TOT} =	total of spatial coefficient values from property line exposures on all sides

First Floor

K =	23	Group C building with combustible construction (Table 3.2.1)
V =	3000	500 sqm floor area by 6 m height
S_{TOT} =	2	S_{TOT} Need Not Exceed 2.0
Q=	**138000**	L

Minimum Flow Rate **4500 L/min** = **75 L/s**

APPENDIX C

Hydrologic Parameters

CROZIER
CONSULTING ENGINEERS

Project Name:	Alta Phase II	D.A. NAME	Pre INT-1
Project No.:	119-2528	D.A. AREA (ha)	1.40
Date:	2021-04-21		
By:	Z. Holland		

Hydrologic Parameters: CALIB NASHYD Command
Pre Development Drainage Area: Catchment Pre INT-1

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic Group	% Area	Area (ha)
Kemble Silty Clay	Ksc	C	100.0	1.40
				0
				0
				0
Total Area				1.40

Impervious Landuses Present:	Roadway		Sidewalk		Driveway		Building		SWMF		Subtotals	
Soils	Area (ha)	CN	Area (ha)	CN	Area	CN	Area (ha)	CN	Area	CN	Area	A*CN
Ksc	0.08	98		98		98	0.05	98		98	0.13	12.50
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
Subtotal	0.08		0		0		0.05		0			

Pervious Landuses Present:	Woodland		Meadow		Wetland		Lawn		Cultivated		Subtotals	
Soils	Area (ha)	CN	Area (ha)	CN	Area	CN	Area (ha)	CN	Area	CN	Area	A*CN
Ksc	0.92	73	0.00		0.00		0.35	79	0.00		1.27	94.99
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
Subtotal	0.92		0.00		0.00		0.35		0.00			

Composite Area Calculations	Total Pervious Area	1.27
	Total Impervious Area	0.13
	% Impervious	9.11%
	Composite Curve Number	76.8
	Total Area Check	1.40

Initial Abstraction and Tp Calculations

Initial Abstraction				Composite Runoff Coefficient								
				Kemble Silty Clay		0		0		0		
Landuse	IA (mm)	Area (ha)	A * IA	RC	Area	RC	Area	RC	Area	RC	Area	A*RC
Woodland	10	0.92	9.22	0.35	0.92		0		0		0	0.32
Meadow	8	0.00	0.00		0		0		0		0	0.00
Wetland	16	0.00	0.00		0		0		0		0	0.00
Lawn	5	0.35	1.75	0.20	0		0		0		0	0.07
Cultivated	7	0.00	0.00		0		0		0		0	0.00
Impervious	2	0.13	0.26	0.95	0.13		0		0		0	0.12
Composite		1.40	8.02	Composite Runoff Coefficient								0.37

Time to Peak Inputs						Uplands			Bransby Williams		Airport	
Flow Path Description	Length (m)	Drop (m)	Slope (%)	$V/S^{0.5}$	Velocity (m/s)	Tc (hr)	Tp(hr)	TOTAL Tp (hr)	Tc (hr)	Tp(hr)	Tc (hr)	Tp(hr)
Overland	190	5	2.63%	0.6	0.10	0.54	0.36	0.36	0.14	0.10	0.40	0.27

Appropriate calculated time to peak:	0.27	Appropriate Method:	Airport

CROZIER
CONSULTING ENGINEERS

Project Name:	Alta Phase II	**D.A. NAME**	**Pre INT-2**
Project No.:	119-2528	**D.A. AREA (ha)**	**5.80**
Date:	2021-04-21		
By:	Z. Holland		

Hydrologic Parameters: CALIB NASHYD Command
Pre Development Drainage Area: Catchment Pre INT-2

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic Group	% Area	Area (ha)
Kemble Silty Clay	Ksc	C	100.0	5.80
				0
				0
				0
Total Area				5.80

Impervious Landuses Present:												
	Roadway		Sidewalk		Driveway		Building		SWMF		Subtotals	
Soils	Area	CN	Area (ha)	CN	Area	CN	Area (ha)	CN	Area	CN	Area	A*CN
Ksc	0.12	98		98		98		98		98	0.12	11.32
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
Subtotal	0.12		0		0		0		0			

Pervious Landuses Present:												
	Woodland		Meadow		Wetland		Lawn		Cultivated		Subtotals	
Soils	Area	CN	Area (ha)	CN	Area	CN	Area (ha)	CN	Area	CN	Area	A*CN
Ksc	3.41	73	2.27	76	0.00		0.00		0.00		5.68	421.79
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
Subtotal	3.41		2.27		0.00		0.00		0.00			

Composite Area Calculations	Total Pervious Area	5.68
	Total Impervious Area	0.12
	% Impervious	1.99%
	Composite Curve Number	74.7
	Total Area Check	5.80

Initial Abstraction and Tp Calculations

Initial Abstraction				Composite Runoff Coefficient								
				Kemble Silty Clay		0		0		0		
Landuse	IA (mm)	Area (ha)	A * IA	RC	Area	RC	Area	RC	Area	RC	Area	A*RC
Woodland	10	3.41	34.11	0.35	3.41		0		0		0	1.19
Meadow	8	2.27	18.19	0.40	2.27		0		0		0	0.91
Wetland	16	0.00	0.00		0		0		0		0	0.00
Lawn	5	0.00	0.00		0		0		0		0	0.00
Cultivated	7	0.00	0.00		0		0		0		0	0.00
Impervious	2	0.12	0.23	0.95	0.12		0		0		0	0.11
Composite		5.80	9.06	Composite Runoff Coefficient								0.38

Time to Peak Inputs						Uplands			Bransby Williams		Airport	
Flow Path Description	Length (m)	Drop (m)	Slope (%)	$V/S^{0.5}$	Velocity (m/s)	Tc (hr)	Tp(hr)	TOTAL Tp (hr)	Tc (hr)	Tp(hr)	Tc (hr)	Tp(hr)
Overland	270	7.5	2.78%	0.6	0.10	0.75	0.50	0.50	0.18	0.12	0.46	0.31

Appropriate calculated time to peak:	0.31	Appropriate Method:	Airport

CROZIER CONSULTING ENGINEERS

Project Name:	Alta Phase II
Project No.:	119-2528
Date:	2021-04-21
By:	Z. Holland

D.A. NAME	**Pre INT-3**
D.A. AREA (ha)	**4.90**

Hydrologic Parameters: CALIB NASHYD Command
Pre Development Drainage Area: Catchment Pre INT-3

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic Group	% Area	Area (ha)
Kemble Silty Clay	Ksc	C	100.0	4.90
				0
				0
				0
Total Area				4.90

Impervious Landuses Present:												
	Roadway		Sidewalk		Driveway		Building		SWMF		Subtotals	
Soils	Area	CN	Area (ha)	CN	Area	CN	Area (ha)	CN	Area	CN	Area	A*CN
Ksc		98		98		98	0.01	98		98	0.01	0.98
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
Subtotal	0		0		0		0.01		0			

Pervious Landuses Present:												
	Woodland		Meadow		Wetland		Lawn		Cultivated		Subtotals	
Soils	Area	CN	Area (ha)	CN	Area	CN	Area (ha)	CN	Area	CN	Area	A*CN
Ksc	1.96	73	2.93	76	0.00		0.00		0.00		4.89	365.77
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
Subtotal	1.96		2.93		0.00		0.00		0.00			

Composite Area Calculations	Total Pervious Area	4.89
	Total Impervious Area	0.01
	% Impervious	0.20%
	Composite Curve Number	74.8
	Total Area Check	4.90

Initial Abstraction and Tp Calculations

Initial Abstraction				Composite Runoff Coefficient								
				Kemble Silty Clay		0		0		0		
Landuse	IA (mm)	Area (ha)	A * IA	RC	Area	RC	Area	RC	Area	RC	Area	A*RC
Woodland	10	1.96	19.56	0.35	1.96		0		0		0	0.68
Meadow	8	2.93	23.47	0.40	2.93		0		0		0	1.17
Wetland	16	0.00	0.00		0		0		0		0	0.00
Lawn	5	0.00	0.00		0		0		0		0	0.00
Cultivated	7	0.00	0.00		0		0		0		0	0.00
Impervious	2	0.01	0.02	0.95	0.01		0		0		0	0.01
Composite		4.90	8.79	Composite Runoff Coefficient								0.38

Time to Peak Inputs						Uplands			Bransby Williams		Airport	
Flow Path Description	Length (m)	Drop (m)	Slope (%)	$V/S^{0.5}$	Velocity (m/s)	Tc (hr)	Tp(hr)	TOTAL Tp (hr)	Tc (hr)	Tp(hr)	Tc (hr)	Tp(hr)
Overland	425	11.5	2.71%	0.6	0.10	1.20	0.80	0.80	0.28	0.19	0.58	0.39

Appropriate calculated time to peak:	0.39	Appropriate Method:	Airport

CROZIER CONSULTING ENGINEERS

Project Name:	Alta Phase II	**D.A. NAME**	**Pre INT-4**
Project No.:	119-2528	**D.A. AREA (ha)**	**2.00**
Date:	2021-04-21		
By:	Z. Holland		

Hydrologic Parameters: CALIB NASHYD Command
Pre Development Drainage Area: Catchment Pre INT-4

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic Group	% Area	Area (ha)
Dunedin Clay	Dc	C	100.0	2.00
				0
				0
				0
Total Area				2.00

Impervious Landuses Present:												
	Roadway		Sidewalk		Driveway		Building		SWMF		Subtotals	
Soils	Area	CN	Area (ha)	CN	Area	CN	Area (ha)	CN	Area	CN	Area	A*CN
Dc		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
Subtotal	0		0		0		0		0			

Pervious Landuses Present:												
	Woodland		Meadow		Wetland		Lawn		Cultivated		Subtotals	
Soils	Area	CN	Area (ha)	CN	Area	CN	Area (ha)	CN	Area	CN	Area	A*CN
Dc	2.00	73	0.00		0.00		0.00		0.00		2.00	146.00
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
Subtotal	2.00		0.00		0.00		0.00		0.00			

Composite Area Calculations		
	Total Pervious Area	2.00
	Total Impervious Area	0
	% Impervious	0%
	Composite Curve Number	73.0
	Total Area Check	2.00

Initial Abstraction and Tp Calculations

Initial Abstraction				Composite Runoff Coefficient								
				Dunedin Clay		0		0		0		
Landuse	IA (mm)	Area (ha)	A * IA	RC	Area	RC	Area	RC	Area	RC	Area	A*RC
Woodland	10	2.00	20.00	0.52	2.00		0		0		0	1.04
Meadow	8	0.00	0.00		0		0		0		0	0.00
Wetland	16	0.00	0.00		0		0		0		0	0.00
Lawn	5	0.00	0.00		0		0		0		0	0.00
Cultivated	7	0.00	0.00		0		0		0		0	0.00
Impervious	2	0.00	0.00		0		0		0		0	0.00
Composite		2.00	10.00	Composite Runoff Coefficient								0.52

Time to Peak Inputs						Uplands			Bransby Williams		Airport	
Flow Path Description	Length (m)	Drop (m)	Slope (%)	$V/S^{0.5}$	Velocity (m/s)	Tc (hr)	Tp(hr)	TOTAL Tp (hr)	Tc (hr)	Tp(hr)	Tc (hr)	Tp(hr)
Overland	109	12.5	11.47%	0.6	0.20	0.15	0.10	0.10	0.06	0.04	0.15	0.10

Appropriate calculated time to peak:	0.04	Appropriate Method:	Bransby Williams

Note: Minimum time to peak set to 0.05 hr for SWMHYMO model stability.

CROZIER CONSULTING ENGINEERS

Project Name:	Alta Phase II
Project No.:	119-2528
Date:	2021-04-21
By:	Z. Holland

D.A. NAME	**Pre INT-5**
D.A. AREA (ha)	**0.90**

Hydrologic Parameters: CALIB NASHYD Command
Pre Development Drainage Area: Catchment Pre INT-5

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic Group	% Area	Area (ha)
Dunedin Clay	Dc	C	100.0	0.90
				0
				0
				0
Total Area				0.90

Impervious Landuses Present:												
	Roadway		Sidewalk		Driveway		Building		SWMF		Subtotals	
Soils	Area	CN	Area (ha)	CN	Area	CN	Area (ha)	CN	Area	CN	Area	A*CN
Dc		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
Subtotal	0		0		0		0		0			

Pervious Landuses Present:												
	Woodland		Meadow		Wetland		Lawn		Cultivated		Subtotals	
Soils	Area	CN	Area (ha)	CN	Area	CN	Area (ha)	CN	Area	CN	Area	A*CN
Dc	0.90	73	0.00		0.00		0.00		0.00		0.90	65.70
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
Subtotal	0.90		0.00		0.00		0.00		0.00			

Composite Area Calculations	Total Pervious Area	0.90
	Total Impervious Area	0
	% Impervious	0.00%
	Composite Curve Number	73.0
	Total Area Check	0.90

Initial Abstraction and Tp Calculations

Initial Abstraction				Composite Runoff Coefficient								
Landuse	IA (mm)	Area (ha)	A * IA	Dunedin Clay		0		0		0		
				RC	Area	RC	Area	RC	Area	RC	Area	A*RC
Woodland	10	0.90	9.00	0.52	0.90		0		0		0	0.47
Meadow	8	0.00	0.00		0		0		0		0	0.00
Wetland	16	0.00	0.00		0		0		0		0	0.00
Lawn	5	0.00	0.00		0		0		0		0	0.00
Cultivated	7	0.00	0.00		0		0		0		0	0.00
Impervious	2	0.00	0.00		0		0		0		0	0.00
Composite		0.90	10.00	Composite Runoff Coefficient								0.52

Time to Peak Inputs						Uplands			Bransby Williams		Airport	
Flow Path Description	Length (m)	Drop (m)	Slope (%)	$V/S^{0.5}$	Velocity (m/s)	Tc (hr)	Tp(hr)	TOTAL Tp (hr)	Tc (hr)	Tp(hr)	Tc (hr)	Tp(hr)
Overland	111	12.5	11.26%	0.6	0.20	0.15	0.10	0.10	0.07	0.04	0.15	0.10

Appropriate calculated time to peak:	0.04	Appropriate Method:	Bransby Williams

Note: Minimum time to peak set to 0.05 hr for SWMHYMO model stability.

CROZIER CONSULTING ENGINEERS

Project Name:	Alta Phase II
Project No.:	119-2528
Date:	2021-04-21
By:	Z. Holland

D.A. NAME	**Pre INT-6**
D.A. AREA (ha)	**0.70**

Hydrologic Parameters: CALIB NASHYD Command
Pre Development Drainage Area: Catchment Pre INT-6

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic Group	% Area	Area (ha)
Dunedin Clay	Dc	C	100.0	0.70
				0
				0
				0
Total Area				0.70

Impervious Landuses Present:												
	Roadway		Sidewalk		Driveway		Building		SWMF		Subtotals	
Soils	Area	CN	Area (ha)	CN	Area	CN	Area (ha)	CN	Area	CN	Area	A*CN
Dc		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
Subtotal	0		0		0		0		0			

Pervious Landuses Present:												
	Woodland		Meadow		Wetland		Lawn		Cultivated		Subtotals	
Soils	Area	CN	Area (ha)	CN	Area	CN	Area (ha)	CN	Area	CN	Area	A*CN
Dc	0.70	73	0.00		0.00		0.00		0.00		0.70	51.10
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
Subtotal	0.70		0.00		0.00		0.00		0.00			

Composite Area Calculations		
	Total Pervious Area	0.70
	Total Impervious Area	0
	% Impervious	0.00%
	Composite Curve Number	73.0
	Total Area Check	0.70

Initial Abstraction and Tp Calculations

Initial Abstraction				Composite Runoff Coefficient								
				Dunedin Clay		0		0		0		
Landuse	IA (mm)	Area (ha)	A * IA	RC	Area	RC	Area	RC	Area	RC	Area	A*RC
Woodland	10	0.70	7.00	0.52	0.70		0		0		0	0.36
Meadow	8	0.00	0.00		0		0		0		0	0.00
Wetland	16	0.00	0.00		0		0		0		0	0.00
Lawn	5	0.00	0.00		0		0		0		0	0.00
Cultivated	7	0.00	0.00		0		0		0		0	0.00
Impervious	2	0.00	0.00		0		0		0		0	0.00
Composite		0.70	10.00	Composite Runoff Coefficient								0.52

Time to Peak Inputs						Uplands			Bransby Williams		Airport	
Flow Path Description	Length (m)	Drop (m)	Slope (%)	$V/S^{0.5}$	Velocity (m/s)	Tc (hr)	Tp(hr)	TOTAL Tp (hr)	Tc (hr)	Tp(hr)	Tc (hr)	Tp(hr)
Overland	110	12.5	11.36%	0.6	0.20	0.15	0.10	0.10	0.07	0.04	0.15	0.10

Appropriate calculated time to peak:	0.04	Appropriate Method:	Bransby Williams

Note: Minimum time to peak set to 0.05 hr for SWMHYMO model stability.

CROZIER CONSULTING ENGINEERS

Project Name:	Alta Phase II	D.A. NAME	Pre UNC-3
Project No.:	119-2528	D.A. AREA (ha)	1.90
Date:	2021-04-21		
By:	Z. Holland		

Hydrologic Parameters: CALIB NASHYD Command
Pre Development Drainage Area: Catchment Pre UNC-3

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic Group	% Area	Area (ha)
Waterloo Sandy Loam	Wsl	A	10.0	0.19
Kemble Silty Clay	Ksc	C	90.0	1.71
				0
				0
Total Area				1.90

Impervious Landuses Present:

		Roadway		Sidewalk		Driveway		Building		SWMF		Subtotals	
Soils		Area (ha)	CN	Area (ha)	CN	Area	CN	Area (ha)	CN	Area	CN	Area	A*CN
Wsl			98		98		98		98		98	0	0
Ksc			98		98		98	0.01	98		98	0.01	0.98
	0		98		98		98		98		98	0	0
	0		98		98		98		98		98	0	0
Subtotal		0		0		0		0.01		0			

Pervious Landuses Present:

		Woodland		Meadow		Wetland		Lawn		Cultivated		Subtotals	
Soils		Area (ha)	CN	Area (ha)	CN	Area	CN	Area (ha)	CN	Area	CN	Area	A*CN
Wsl		0.19	32	0.00		0.00		0.00		0.00		0.19	6.08
Ksc		1.28	73	0.43	76	0.00		0.00		0.00		1.70	125.38
	0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
	0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
Subtotal		1.47		0.43		0.00		0.00		0.00			

Composite Area Calculations		
	Total Pervious Area	1.89
	Total Impervious Area	0.01
	% Impervious	0.53%
	Composite Curve Number	69.7
	Total Area Check	1.90

Initial Abstraction and Tp Calculations

Initial Abstraction				Composite Runoff Coefficient								
Landuse	IA (mm)	Area (ha)	A * IA	Waterloo Sandy		Kemble Silty Clay		0		0		
				RC	Area	RC	Area	RC	Area	RC	Area	A*RC
Woodland	10	1.47	14.65	0.18	0.19	0.52	1.28		0		0	0.70
Meadow	8	0.43	3.40		0	0.55	0.43		0		0	0.23
Wetland	16	0.00	0.00		0		0		0		0	0.00
Lawn	5	0.00	0.00		0		0		0		0	0.00
Cultivated	7	0.00	0.00		0		0		0		0	0.00
Impervious	2	0.01	0.02		0	0.95	0.01		0		0	0.01
Composite		1.90	9.51	Composite Runoff Coefficient								0.49

Time to Peak Inputs						Uplands			Bransby Williams		Airport	
Flow Path Description	Length (m)	Drop (m)	Slope (%)	$V/S^{0.5}$	Velocity (m/s)	Tc (hr)	Tp(hr)	TOTAL Tp (hr)	Tc (hr)	Tp(hr)	Tc (hr)	Tp(hr)
Overland	170	22.5	13.24%	0.6	0.22	0.22	0.14	0.14	0.09	0.06	0.18	0.12

Appropriate calculated time to peak:	0.06	Appropriate Method:	Bransby Williams

Project Name:	Alta Phase II
Project No.:	119-2528
Date:	2021-04-21
By:	Z. Holland

D.A. NAME	**Pre UNC-4**
D.A. AREA (ha)	**3.20**

Hydrologic Parameters: CALIB NASHYD Command
Pre Development Drainage Area: Catchment Pre UNC-4

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic Group	% Area	Area (ha)
Waterloo Sandy Loam	Wsl	A	100.0	3.20
				0
				0
				0
Total Area				3.20

Impervious Landuses Present:												
	Roadway		Sidewalk		Driveway		Building		SWMF		Subtotals	
Soils	Area	CN	Area (ha)	CN	Area	CN	Area (ha)	CN	Area	CN	Area	A*CN
Wsl	0.12	98		98		98		98		98	0.116	11.368
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
Subtotal	0.12		0		0		0		0			

Pervious Landuses Present:												
	Woodland		Meadow		Wetland		Lawn		Cultivated		Subtotals	
Soils	Area	CN	Area (ha)	CN	Area	CN	Area (ha)	CN	Area	CN	Area	A*CN
Wsl	3.08	32	0.00		0.00		0.00		0.00		3.08	98.69
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
Subtotal	3.08		0.00		0.00		0.00		0.00			

Composite Area Calculations	Total Pervious Area	3.08
	Total Impervious Area	0.116
	% Impervious	3.63%
	Composite Curve Number	34.4
	Total Area Check	3.20

Initial Abstraction and Tp Calculations

Initial Abstraction				Composite Runoff Coefficient								
				Waterloo Sandy		0		0		0		
Landuse	IA (mm)	Area (ha)	A * IA	RC	Area	RC	Area	RC	Area	RC	Area	A*RC
Woodland	10	3.08	30.84	0.18	3.08		0		0		0	0.56
Meadow	8	0.00	0.00		0		0		0		0	0.00
Wetland	16	0.00	0.00		0		0		0		0	0.00
Lawn	5	0.00	0.00		0		0		0		0	0.00
Cultivated	7	0.00	0.00		0		0		0		0	0.00
Impervious	2	0.12	0.23	0.95	0		0		0		0	0.11
Composite		3.20	9.71	Composite Runoff Coefficient								0.21

Time to Peak Inputs						Uplands			Bransby Williams		Airport	
Flow Path Description	Length (m)	Drop (m)	Slope (%)	$V/S^{0.5}$	Velocity (m/s)	Tc (hr)	Tp(hr)	TOTAL Tp (hr)	Tc (hr)	Tp(hr)	Tc (hr)	Tp(hr)
Overland	350	25	7.14%	0.6	0.16	0.61	0.41	0.41	0.20	0.13	0.47	0.32

Appropriate calculated time to peak:	0.32	Appropriate Method:	Airport

CROZIER CONSULTING ENGINEERS

Project Name:	Alta Phase II	**D.A. NAME**	**Pre EXT-1**
Project No.:	119-2528	**D.A. AREA (ha)**	**3.50**
Date:	2021-04-21		
By:	Z. Holland		

Hydrologic Parameters: CALIB NASHYD Command
Pre Development Drainage Area: Catchment Pre EXT-1

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic Group	% Area	Area (ha)
Dunedin Clay	Dc	C	100.0	3.50
				0
				0
				0
Total Area				3.50

Impervious Landuses Present:												
	Roadway		Sidewalk		Driveway		Building		SWMF		Subtotals	
Soils	Area	CN	Area (ha)	CN	Area	CN	Area (ha)	CN	Area	CN	Area	A*CN
Dc		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
Subtotal	0		0		0		0		0			

Pervious Landuses Present:												
	Woodland		Meadow		Wetland		Lawn		Cultivated		Subtotals	
Soils	Area	CN	Area (ha)	CN	Area	CN	Area (ha)	CN	Area	CN	Area	A*CN
Dc	3.50	73	0.00		0.00		0.00		0.00		3.50	255.50
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
Subtotal	3.50		0.00		0.00		0.00		0.00			

	Composite Area Calculations	Total Pervious Area	3.50
		Total Impervious Area	0
		% Impervious	0.00%
		Composite Curve Number	73.0
		Total Area Check	3.50

Initial Abstraction and Tp Calculations

Initial Abstraction				Composite Runoff Coefficient								
Landuse	IA (mm)	Area (ha)	A * IA	Dunedin Clay		0		0		0		
				RC	Area	RC	Area	RC	Area	RC	Area	A*RC
Woodland	10	3.50	35.00	0.52	3.50		0		0		0	1.82
Meadow	8	0.00	0.00		0		0		0		0	0.00
Wetland	16	0.00	0.00		0		0		0		0	0.00
Lawn	5	0.00	0.00		0		0		0		0	0.00
Cultivated	7	0.00	0.00		0		0		0		0	0.00
Impervious	2	0.00	0.00		0		0		0		0	0.00
Composite		3.50	10.00	Composite Runoff Coefficient								0.52

Time to Peak Inputs						Uplands			Bransby Williams		Airport	
Flow Path Description	Length (m)	Drop (m)	Slope (%)	$V/S^{0.5}$	Velocity (m/s)	Tc (hr)	Tp(hr)	TOTAL Tp (hr)	Tc (hr)	Tp(hr)	Tc (hr)	Tp(hr)
Overland	460	160	34.78%	0.6	0.35	0.36	0.24	0.24	0.19	0.13	0.21	0.14

Appropriate calculated time to peak:	0.13	Appropriate Method:	Bransby Williams

CROZIER CONSULTING ENGINEERS

Project Name:	Alta Phase II	D.A. NAME	Pre EXT-2
Project No.:	119-2528	D.A. AREA (ha)	4.10
Date:	2021-04-21		
By:	Z. Holland		

Hydrologic Parameters: CALIB NASHYD Command
Pre Development Drainage Area: Catchment Pre EXT-2

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic Group	% Area	Area (ha)
Dunedin Clay	Dc	C	100.0	4.10
				0
				0
				0
Total Area				4.10

Impervious Landuses Present:												
	Roadway		Sidewalk		Driveway		Building		SWMF		Subtotals	
Soils	Area	CN	Area (ha)	CN	Area	CN	Area (ha)	CN	Area	CN	Area	A*CN
Dc		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
Subtotal	0		0		0		0		0			

Pervious Landuses Present:												
	Woodland		Meadow		Wetland		Lawn		Cultivated		Subtotals	
Soils	Area	CN	Area (ha)	CN	Area	CN	Area (ha)	CN	Area	CN	Area	A*CN
Dc	4.10	73	0.00		0.00		0.00		0.00		4.10	299.30
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
Subtotal	4.10		0.00		0.00		0.00		0.00			

	Composite Area Calculations	Total Pervious Area	4.10
		Total Impervious Area	0
		% Impervious	0.00%
		Composite Curve Number	73.0
		Total Area Check	4.10

Initial Abstraction and Tp Calculations

Initial Abstraction				Composite Runoff Coefficient								
Landuse	IA (mm)	Area (ha)	A * IA	Dunedin Clay		0		0		0		
				RC	Area	RC	Area	RC	Area	RC	Area	A*RC
Woodland	10	4.10	41.00	0.52	4.10		0		0		0	2.13
Meadow	8	0.00	0.00		0		0		0		0	0.00
Wetland	16	0.00	0.00		0		0		0		0	0.00
Lawn	5	0.00	0.00		0		0		0		0	0.00
Cultivated	7	0.00	0.00		0		0		0		0	0.00
Impervious	2	0.00	0.00		0		0		0		0	0.00
Composite		4.10	10.00	Composite Runoff Coefficient								0.52

Time to Peak Inputs						Uplands			Bransby Williams		Airport	
Flow Path Description	Length (m)	Drop (m)	Slope (%)	$V/S^{0.5}$	Velocity (m/s)	Tc (hr)	Tp(hr)	TOTAL Tp (hr)	Tc (hr)	Tp(hr)	Tc (hr)	Tp(hr)
Overland	445	155	34.83%	0.6	0.35	0.35	0.23	0.23	0.18	0.12	0.21	0.14

Appropriate calculated time to peak:	0.12	Appropriate Method:	Bransby Williams

Project Name:	Alta Phase II
Project No.:	119-2528
Date:	2021-04-21
By:	Z. Holland

D.A. NAME	**Pre EXT-3**
D.A. AREA (ha)	**2.20**

Hydrologic Parameters: CALIB NASHYD Command
Pre Development Drainage Area: Catchment Pre EXT-3

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic Group	% Area	Area (ha)
Dunedin Clay	Dc	C	100.0	2.20
				0
				0
				0
Total Area				2.20

Impervious Landuses Present:												
	Roadway		Sidewalk		Driveway		Building		SWMF		Subtotals	
Soils	Area	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area	CN	Area	A*CN
Dc		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
Subtotal	0		0		0		0		0			

Pervious Landuses Present:												
	Woodland		Meadow		Wetland		Lawn		Cultivated		Subtotals	
Soils	Area	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area	CN	Area	A*CN
Dc	2.20	73	0.00		0.00		0.00		0.00		2.20	160.60
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
Subtotal	2.20		0.00		0.00		0.00		0.00			

	Composite Area Calculations	Total Pervious Area	2.20
		Total Impervious Area	0
		% Impervious	0.00%
		Composite Curve Number	73.0
		Total Area Check	2.20

Initial Abstraction and Tp Calculations

Initial Abstraction				Composite Runoff Coefficient								
				Dunedin Clay		0		0		0		
Landuse	IA (mm)	Area (ha)	A * IA	RC	Area	RC	Area	RC	Area	RC	Area	A*RC
Woodland	10	2.20	22.00	0.52	2.20		0		0		0	1.14
Meadow	8	0.00	0.00		0		0		0		0	0.00
Wetland	16	0.00	0.00		0		0		0		0	0.00
Lawn	5	0.00	0.00		0		0		0		0	0.00
Cultivated	7	0.00	0.00		0		0		0		0	0.00
Impervious	2	0.00	0.00		0		0		0		0	0.00
Composite		2.20	10.00	Composite Runoff Coefficient								0.52

Time to Peak Inputs						Uplands			Bransby Williams		Airport	
Flow Path Description	Length (m)	Drop (m)	Slope (%)	$V/S^{0.5}$	Velocity (m/s)	Tc (hr)	Tp(hr)	TOTAL Tp (hr)	Tc (hr)	Tp(hr)	Tc (hr)	Tp(hr)
Overland	445	155	34.83%	0.6	0.35	0.35	0.23	0.23	0.19	0.13	0.21	0.14

Appropriate calculated time to peak:	0.13	Appropriate Method:	Bransby Williams

Project Name:	Alta Phase II
Project No.:	119-2528
Date:	2021-04-21
By:	Z. Holland

D.A. NAME	Pre EXT-4
D.A. AREA (ha)	2.60

Hydrologic Parameters: CALIB NASHYD Command
Pre Development Drainage Area: Catchment Pre EXT-4

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic Group	% Area	Area (ha)
Dunedin Clay	Dc	C	100.0	2.60
				0
				0
				0
Total Area				2.60

Impervious Landuses Present:												
	Roadway		Sidewalk		Driveway		Building		SWMF		Subtotals	
Soils	Area (ha)	CN	Area (ha)	CN	Area	CN	Area (ha)	CN	Area	CN	Area	A*CN
Dc		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
Subtotal	0		0		0		0		0			

Pervious Landuses Present:												
	Woodland		Meadow		Wetland		Lawn		Cultivated		Subtotals	
Soils	Area (ha)	CN	Area (ha)	CN	Area	CN	Area (ha)	CN	Area	CN	Area	A*CN
Dc	2.60	73	0.00		0.00		0.00		0.00		2.60	189.80
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
Subtotal	2.60		0.00		0.00		0.00		0.00			

Composite Area Calculations	Total Pervious Area	2.60
	Total Impervious Area	0
	% Impervious	0.00%
	Composite Curve Number	73.0
	Total Area Check	2.60

Initial Abstraction and Tp Calculations

Initial Abstraction				Composite Runoff Coefficient								
Landuse	IA (mm)	Area (ha)	A * IA	Dunedin Clay		0		0		0		
				RC	Area	RC	Area	RC	Area	RC	Area	A*RC
Woodland	10	2.60	26.00	0.52	2.60		0		0		0	1.35
Meadow	8	0.00	0.00		0		0		0		0	0.00
Wetland	16	0.00	0.00		0		0		0		0	0.00
Lawn	5	0.00	0.00		0		0		0		0	0.00
Cultivated	7	0.00	0.00		0		0		0		0	0.00
Impervious	2	0.00	0.00		0		0		0		0	0.00
Composite		2.60	10.00	Composite Runoff Coefficient								0.52

Time to Peak Inputs						Uplands			Bransby Williams		Airport	
Flow Path Description	Length (m)	Drop (m)	Slope (%)	$V/S^{0.5}$	Velocity (m/s)	Tc (hr)	Tp(hr)	TOTAL Tp (hr)	Tc (hr)	Tp(hr)	Tc (hr)	Tp(hr)
Overland	445	155	34.83%	0.6	0.35	0.35	0.23	0.23	0.19	0.13	0.21	0.14

Appropriate calculated time to peak:	0.13	Appropriate Method:	Bransby Williams

CROZIER CONSULTING ENGINEERS

Project Name:	Alta Phase II
Project No.:	119-2528
Date:	2021-04-21
By:	Z. Holland

D.A. NAME	**Pre EXT-5**
D.A. AREA (ha)	**5.20**

Hydrologic Parameters: CALIB NASHYD Command
Pre Development Drainage Area: Catchment Pre EXT-5

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic Group	% Area	Area (ha)
Dunedin Clay	Dc	C	100.0	5.20
				0
				0
				0
Total Area				5.20

Impervious Landuses Present:	Roadway		Sidewalk		Driveway		Building		SWMF		Subtotals	
Soils	Area	CN	Area (ha)	CN	Area	CN	Area (ha)	CN	Area	CN	Area	A*CN
Dc		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
Subtotal	0		0		0		0		0			

Pervious Landuses Present:	Woodland		Meadow		Wetland		Lawn		Cultivated		Subtotals	
Soils	Area	CN	Area (ha)	CN	Area	CN	Area (ha)	CN	Area	CN	Area	A*CN
Dc	5.20	73	0.00		0.00		0.00		0.00		5.20	379.60
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
Subtotal	5.20		0.00		0.00		0.00		0.00			

Composite Area Calculations		
	Total Pervious Area	5.20
	Total Impervious Area	0
	% Impervious	0.00%
	Composite Curve Number	73.0
	Total Area Check	5.20

Initial Abstraction and Tp Calculations

Initial Abstraction				Composite Runoff Coefficient								
				Dunedin Clay		0		0		0		
Landuse	IA (mm)	Area (ha)	A * IA	RC	Area	RC	Area	RC	Area	RC	Area	A*RC
Woodland	10	5.20	52.00	0.52	5.20		0		0		0	2.70
Meadow	8	0.00	0.00		0		0		0		0	0.00
Wetland	16	0.00	0.00		0		0		0		0	0.00
Lawn	5	0.00	0.00		0		0		0		0	0.00
Cultivated	7	0.00	0.00		0		0		0		0	0.00
Impervious	2	0.00	0.00		0		0		0		0	0.00
Composite		5.20	10.00	Composite Runoff Coefficient								0.52

Time to Peak Inputs						Uplands			Bransby Williams		Airport	
Flow Path Description	Length (m)	Drop (m)	Slope (%)	$V/S^{0.5}$	Velocity (m/s)	Tc (hr)	Tp(hr)	TOTAL Tp (hr)	Tc (hr)	Tp(hr)	Tc (hr)	Tp(hr)
Overland	415	140	33.73%	0.6	0.35	0.33	0.22	0.22	0.17	0.11	0.20	0.13

Appropriate calculated time to peak:	0.11	Appropriate Method:	Bransby Williams

Project Name:	Alta Phase II	**D.A. NAME**	**Post INT-1**
Project No.:	119-2528	**D.A. AREA (ha)**	**8.60**
Date:	2022-02-11		
By:	J. Kerschbaumer		

Hydrologic Parameters: CALIB STANDHYD Command

Post Development Drainage Area: Catchment Post INT-1

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic Group	% Area	Area
Kemble Silty Clay	Ksc	C	100.0	8.6
				0
				0
				0
Total Area Check				8.6

Impervious Landuses Present:												
	Roadway		Sidewalk		Driveway		Building		SWMF		Subtotals	
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area	A*CN
Ksc	1.05	98		98	0.26	98	2.40	98		98	3.71	363.43
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
Subtotal Area	1.05		0		0.26		2.40		0		3.71	

Pervious Landuses Present:												
	Woodland		Meadow		Wetland		Lawn		Cultivated		Subtotals	
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area	A*CN
Ksc	0		0		0		4.89	79	0		4.89	386.43
0	0		0		0		0		0		0	0
0	0		0		0		0		0		0	0
0	0		0		0		0		0		0	0
Subtotal Area	0		0		0		4.89		0			

Pervious Area Calculations	Total Pervious Area	4.89
	Composite Pervious Curve Number	79
Impervious Area Calculations	Total Directly Connected Area	1.44
	Total Indirectly Connected Area	2.27
	Total Impervious Area	3.71
	% X imp	16.8
	% T imp	43.1
	Total Area Check	8.60

Initial Abstraction and Tp Calculations

Landuse	IA (mm)	Area (ha)	A * IA
Woodland	10	0	0
Meadow	8	0	0
Wetland	16	0	0
Lawn	5	4.89	24.46
Cultivated	7	0	0

Land Use	IA (mm)	Slope (%)	Travel Length (m)	Manning's n
Pervious	5.0	2	65	0.25
Impervious	2.0	0.5	239	0.013

Project Name:	Alta Phase II	D.A. NAME	Post INT-2
Project No.:	119-2528	D.A. AREA (ha)	3.00
Date:	2021-06-22		
By:	Z. Holland		

Hydrologic Parameters: CALIB STANDHYD Command
Post Development Drainage Area: Catchment Post INT-2

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic Group	% Area	Area
Dunedin Clay	Dc	C	100.0	3
				0
				0
				0
Total Area Check				3

Impervious Landuses Present:	Roadway		Sidewalk		Driveway		Building		SWMF		Subtotals	
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area	A*CN
Dc	0.39	98		98	0.07	98	0.48	98		98	0.93	91.23
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
Subtotal Area	0.39		0		0.07		0.48		0		0.93	

Pervious Landuses Present:	Woodland		Meadow		Wetland		Lawn		Cultivated		Subtotals	
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area	A*CN
Dc	0		0		0		2.07	79	0		2.07	163.46
0	0		0		0		0		0		0	0
0	0		0		0		0		0		0	0
0	0		0		0		0		0		0	0
Subtotal Area	0		0		0		2.07		0			

Pervious Area Calculations	Total Pervious Area	2.07
	Composite Pervious Curve Number	79
Impervious Area Calculations	Total Directly Connected Area	0.45
	Total Indirectly Connected Area	0.48
	Total Impervious Area	0.93
	% X imp	15.0
	% T imp	31.0
	Total Area Check	3.00

Initial Abstraction and Tp Calculations

Landuse	IA (mm)	Area (ha)	A * IA
Woodland	10	0	0
Meadow	8	0	0
Wetland	16	0	0
Lawn	5	2.07	10.35
Cultivated	7	0	0

Land Use	IA (mm)	Slope (%)	Travel Length (m)	Manning's n
Pervious	5.0	2	65	0.25
Impervious	2.0	0.5	141	0.013

CROZIER CONSULTING ENGINEERS

Project Name:	Alta Phase II	D.A. NAME	Post INT-3
Project No.:	119-2528	D.A. AREA (ha)	0.20
Date:	2021-06-22		
By:	Z. Holland		

Hydrologic Parameters: CALIB NASHYD Command
Pre Development Drainage Area: Catchment Post INT-3

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic Group	% Area	Area (ha)
Dunedin Clay	Dc	C	100.0	0.20
				0
				0
				0
Total Area				0.20

Impervious Landuses Present:												
	Roadway		Sidewalk		Driveway		Building		SWMF		Subtotals	
Soils	Area	CN	Area (ha)	CN	Area	CN	Area (ha)	CN	Area	CN	Area	A*CN
Dc		98		98		98		98		98	0	0.00
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
Subtotal	0		0		0		0.00		0			

Pervious Landuses Present:												
	Woodland		Meadow		Wetland		Lawn		Cultivated		Subtotals	
Soils	Area	CN	Area (ha)	CN	Area	CN	Area (ha)	CN	Area	CN	Area	A*CN
Dc	0.20	73	0.00		0.00		0.00		0.00		0.20	14.60
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
Subtotal	0.20		0.00		0.00		0.00		0.00			

Composite Area Calculations	Total Pervious Area	0.20
	Total Impervious Area	0
	% Impervious	0.00%
	Composite Curve Number	73.0
	Total Area Check	0.20

Initial Abstraction and Tp Calculations

Initial Abstraction				Composite Runoff Coefficient								
				Dunedin Clay		0		0		0		
Landuse	IA (mm)	Area (ha)	A * IA	RC	Area	RC	Area	RC	Area	RC	Area	A*RC
Woodland	10	0.20	2.00	0.52	0.20		0		0		0	0.10
Meadow	8	0.00	0.00		0.00		0		0		0	0.00
Wetland	16	0.00	0.00		0		0		0		0	0.00
Lawn	5	0.00	0.00		0		0		0		0	0.00
Cultivated	7	0.00	0.00		0		0		0		0	0.00
Impervious	2	0.00	0.00		0.00		0		0		0	0.00
Composite		0.20	10.00	Composite Runoff Coefficient								0.52

Time to Peak Inputs						Uplands			Bransby Williams		Airport	
Flow Path Description	Length (m)	Drop (m)	Slope (%)	$V/S^{0.5}$	Velocity (m/s)	Tc (hr)	Tp(hr)	TOTAL Tp (hr)	Tc (hr)	Tp(hr)	Tc (hr)	Tp(hr)
Overland	37	5	13.51%	0.6	0.22	0.05	0.03	0.03	0.02	0.02	0.08	0.05

Appropriate calculated time to peak:	0.02	Appropriate Method:	Bransby Williams

Note: Minimum time to peak set to 0.05 hr for SWMHYMO model stability.

CROZIER CONSULTING ENGINEERS

Project Name:	Alta Phase II	D.A. NAME	Post INT-4
Project No.:	119-2528	D.A. AREA (ha)	0.60
Date:	2021-06-22		
By:	Z. Holland		

Hydrologic Parameters: CALIB NASHYD Command
Pre Development Drainage Area: Catchment Post INT-4

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic Group	% Area	Area (ha)
Dunedin Clay	Dc	C	100.0	0.60
				0
				0
				0
Total Area				0.60

Impervious Landuses Present:												
	Roadway		Sidewalk		Driveway		Building		SWMF		Subtotals	
Soils	Area	CN	Area (ha)	CN	Area	CN	Area (ha)	CN	Area	CN	Area	A*CN
Dc		98		98		98		98		98	0	0.00
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
Subtotal	0		0		0		0.00		0			

Pervious Landuses Present:												
	Woodland		Meadow		Wetland		Lawn		Cultivated		Subtotals	
Soils	Area	CN	Area (ha)	CN	Area	CN	Area (ha)	CN	Area	CN	Area	A*CN
Dc	0.60	73	0.00		0.00		0.00		0.00		0.60	43.80
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
Subtotal	0.60		0.00		0.00		0.00		0.00			

Composite Area Calculations	Total Pervious Area	0.60
	Total Impervious Area	0
	% Impervious	0.00%
	Composite Curve Number	73.0
	Total Area Check	0.60

Initial Abstraction and Tp Calculations

Initial Abstraction				Composite Runoff Coefficient								
Landuse	IA (mm)	Area (ha)	A * IA	Dunedin Clay		0		0		0		
				RC	Area	RC	Area	RC	Area	RC	Area	A*RC
Woodland	10	0.60	6.00	0.52	0.60		0		0		0	0.31
Meadow	8	0.00	0.00		0		0		0		0	0.00
Wetland	16	0.00	0.00		0		0		0		0	0.00
Lawn	5	0.00	0.00		0		0		0		0	0.00
Cultivated	7	0.00	0.00		0		0		0		0	0.00
Impervious	2	0.00	0.00		0		0		0		0	0.00
Composite		0.60	10.00	Composite Runoff Coefficient								0.52

Time to Peak Inputs						Uplands			Bransby Williams		Airport	
Flow Path Description	Length (m)	Drop (m)	Slope (%)	$V/S^{0.5}$	Velocity (m/s)	Tc (hr)	Tp(hr)	TOTAL Tp (hr)	Tc (hr)	Tp(hr)	Tc (hr)	Tp(hr)
Overland	30	5	16.67%	0.6	0.24	0.03	0.02	0.02	0.02	0.01	0.07	0.05

Appropriate calculated time to peak:	0.01	Appropriate Method:	Bransby Williams

Note: Minimum time to peak set to 0.05 hr for SWMHYMO model stability.

Project Name:	Alta Phase II	**D.A. NAME**	**Post INT-5**
Project No.:	119-2528	**D.A. AREA (ha)**	**0.10**
Date:	2021-06-23		
By:	Z. Holland		

Hydrologic Parameters: CALIB NASHYD Command
Pre Development Drainage Area: Catchment Post INT-5

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic Group	% Area	Area (ha)
Dunedin Clay	Dc	C	100.0	0.10
				0
				0
				0
Total Area				0.10

Impervious Landuses Present:												
	Roadway		Sidewalk		Driveway		Building		SWMF		Subtotals	
Soils	Area	CN	Area (ha)	CN	Area	CN	Area (ha)	CN	Area	CN	Area	A*CN
Dc		98		98		98		98		98	0	0.00
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
Subtotal	0		0		0		0.00		0			

Pervious Landuses Present:												
	Woodland		Meadow		Wetland		Lawn		Cultivated		Subtotals	
Soils	Area	CN	Area (ha)	CN	Area	CN	Area (ha)	CN	Area	CN	Area	A*CN
Dc	0.10	73	0.00		0.00		0.00		0.00		0.10	7.30
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
Subtotal	0.10		0.00		0.00		0.00		0.00			

Composite Area Calculations	Total Pervious Area	0.10
	Total Impervious Area	0
	% Impervious	0.00%
	Composite Curve Number	73.0
	Total Area Check	0.10

Initial Abstraction and Tp Calculations

Initial Abstraction				Composite Runoff Coefficient								
				Dunedin Clay		0		0		0		
Landuse	IA (mm)	Area (ha)	A * IA	RC	Area	RC	Area	RC	Area	RC	Area	A*RC
Woodland	10	0.10	1.00	0.52	0.10		0		0		0	0.05
Meadow	8	0.00	0.00		0		0		0		0	0.00
Wetland	16	0.00	0.00		0		0		0		0	0.00
Lawn	5	0.00	0.00		0		0		0		0	0.00
Cultivated	7	0.00	0.00		0		0		0		0	0.00
Impervious	2	0.00	0.00		0		0		0		0	0.00
Composite		0.10	10.00	Composite Runoff Coefficient								0.52

Time to Peak Inputs						Uplands			Bransby Williams		Airport	
Flow Path Description	Length (m)	Drop (m)	Slope (%)	$V/S^{0.5}$	Velocity (m/s)	Tc (hr)	Tp(hr)	TOTAL Tp (hr)	Tc (hr)	Tp(hr)	Tc (hr)	Tp(hr)
Overland	17	2.5	14.71%	0.6	0.23	0.02	0.01	0.01	0.01	0.01	0.05	0.04

Appropriate calculated time to peak:	0.01	Appropriate Method:	Bransby Williams

Note: Minimum time to peak set to 0.05 hr for SWMHYMO model stability.

Project Name:	Alta Phase II
Project No.:	119-2528
Date:	2021-06-23
By:	Z. Holland

D.A. NAME	**Post UNC-1**
D.A. AREA (ha)	**0.80**

Hydrologic Parameters: CALIB NASHYD Command
Pre Development Drainage Area: Catchment Post UNC-1

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic Group	% Area	Area (ha)
Kemble Silty Clay	Ksc	C	100.0	0.80
				0
				0
				0
Total Area				0.80

Impervious Landuses Present:

	Roadway		Sidewalk		Driveway		Building		SWMF		Subtotals	
Soils	Area	CN	Area (ha)	CN	Area	CN	Area (ha)	CN	Area	CN	Area	A*CN
Ksc	0.08	98		98		98	0.05	98		98	0	12.50
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
Subtotal	0.08		0		0		0.05		0			

Pervious Landuses Present:

	Woodland		Meadow		Wetland		Lawn		Cultivated		Subtotals	
Soils	Area	CN	Area (ha)	CN	Area	CN	Area (ha)	CN	Area	CN	Area	A*CN
Ksc	0.00	73	0.00		0.00		0.67	79	0.00		0.67	53.13
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
Subtotal	0.00		0.00		0.00		0.67		0.00			

Composite Area Calculations		
	Total Pervious Area	0.67
	Total Impervious Area	0.1275
	% Impervious	15.94%
	Composite Curve Number	82.0
	Total Area Check	0.80

Initial Abstraction and Tp Calculations

Initial Abstraction				Composite Runoff Coefficient								
				Kemble Silty Clay		0		0		0		
Landuse	IA (mm)	Area (ha)	A * IA	RC	Area	RC	Area	RC	Area	RC	Area	A*RC
Woodland	10	0.00	0.00		0		0		0		0	0.00
Meadow	8	0.00	0.00		0		0		0		0	0.00
Wetland	16	0.00	0.00		0		0		0		0	0.00
Lawn	5	0.67	3.36	0.20	1		0		0		0	0.13
Cultivated	7	0.00	0.00		0		0		0		0	0.00
Impervious	2	0.13	0.26	0.95	0		0		0		0	0.12
Composite		0.80	4.52	Composite Runoff Coefficient								0.32

Time to Peak Inputs						Uplands			Bransby Williams		Airport	
Flow Path Description	Length (m)	Drop (m)	Slope (%)	$V/S^{0.5}$	Velocity (m/s)	Tc (hr)	Tp(hr)	TOTAL Tp (hr)	Tc (hr)	Tp(hr)	Tc (hr)	Tp(hr)
Overland	185	5	2.70%	4.6	0.76	0.07	0.05	0.05	0.15	0.10	0.42	0.28

Appropriate calculated time to peak:	0.28	Appropriate Method:	Airport

Project Name:	Alta Phase II
Project No.:	119-2528
Date:	2021-06-23
By:	Z. Holland

D.A. NAME	**Post UNC-2**
D.A. AREA (ha)	**1.50**

Hydrologic Parameters: CALIB STANDHYD Command

Post Development Drainage Area: Catchment Post UNC-2

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic Group	% Area	Area
Kemble Silty Clay	Ksc	C	100.0	1.5
				0
				0
				0
Total Area Check				1.5

Impervious Landuses Present:	Roadway		Sidewalk		Driveway		Building		SWMF		Subtotals	
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area	A*CN
Ksc	0.09	98		98	0.02	98	0.22	98		98	0.33	32.53
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
Subtotal Area	0.09		0		0.02		0.22		0		0.33	

Pervious Landuses Present:	Woodland		Meadow		Wetland		Lawn		Cultivated		Subtotals	
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area	A*CN
Ksc	0		0		0		1.17	79	0		1.17	92.28
0	0		0		0		0		0		0	0
0	0		0		0		0		0		0	0
0	0		0		0		0		0		0	0
Subtotal Area	0		0		0		1.17		0			

Pervious Area Calculations	Total Pervious Area	1.17
	Composite Pervious Curve Number	79
Impervious Area Calculations	Total Directly Connected Area	0.11
	Total Indirectly Connected Area	0.22
	Total Impervious Area	0.33
	% X imp	7.5
	% T imp	22.1
	Total Area Check	1.50

Initial Abstraction and Tp Calculations

Landuse	IA (mm)	Area (ha)	A * IA
Woodland	10	0	0
Meadow	8	0	0
Wetland	16	0	0
Lawn	5	1.17	5.84
Cultivated	7	0	0

Land Use	IA (mm)	Slope (%)	Travel Length (m)	Manning's n
Pervious	5.0	2	65	0.25
Impervious	2.0	0.5	100	0.013

Project Name:	Alta Phase II
Project No.:	119-2528
Date:	2022-02-11
By:	J. Kerschbaumer

D.A. NAME Post UNC-3
D.A. AREA (ha) 2.00

Hydrologic Parameters: CALIB NASHYD Command
Pre Development Drainage Area: Catchment Post UNC-3

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic Group	% Area	Area (ha)
Kemble Silty Clay	Ksc	C	100.0	2.00
				0
				0
				0
Total Area				2.00

Impervious Landuses Present:												
	Roadway		Sidewalk		Driveway		Building		SWMF		Subtotals	
Soils	Area	CN	Area (ha)	CN	Area	CN	Area (ha)	CN	Area	CN	Area	A*CN
Ksc		98		98		98	0.08	98		98	0.08	7.99
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
Subtotal	0.00		0		0		0.08		0			

Pervious Landuses Present:												
	Woodland		Meadow		Wetland		Lawn		Cultivated		Subtotals	
Soils	Area	CN	Area (ha)	CN	Area	CN	Area (ha)	CN	Area	CN	Area	A*CN
Ksc	1.48	73	0.00		0.00		0.44	79	0.00		1.92	142.71
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
Subtotal	1.48		0.00		0.00		0.44		0.00			

Composite Area Calculations		
	Total Pervious Area	1.92
	Total Impervious Area	0.0815
	% Impervious	4.08%
	Composite Curve Number	75.3
	Total Area Check	2.00

Initial Abstraction and Tp Calculations

Initial Abstraction				Composite Runoff Coefficient								
Landuse	IA (mm)	Area (ha)	A * IA	Kemble Silty Clay		0		0		0		
				RC	Area	RC	Area	RC	Area	RC	Area	A*RC
Woodland	10	1.48	14.76	0.52	1.48		0		0		0	0.77
Meadow	8	0.00	0.00		0		0		0		0	0.00
Wetland	16	0.00	0.00		0		0		0		0	0.00
Lawn	5	0.44	2.21	0.20	0		0		0		0	0.09
Cultivated	7	0.00	0.00		0		0		0		0	0.00
Impervious	2	0.08	0.16	0.95	0		0		0		0	0.08
Composite		2.00	8.57	Composite Runoff Coefficient								0.47

Time to Peak Inputs						Uplands			Bransby Williams		Airport	
Flow Path Description	Length (m)	Drop (m)	Slope (%)	$V/S^{0.5}$	Velocity (m/s)	Tc (hr)	Tp(hr)	TOTAL Tp (hr)	Tc (hr)	Tp(hr)	Tc (hr)	Tp(hr)
Overland	142	25	17.61%	0.6	0.25	0.16	0.10	0.10	0.07	0.05	0.16	0.11

Appropriate calculated time to peak:	0.05	Appropriate Method:	Bransby Williams

CROZIER CONSULTING ENGINEERS

Project Name:	Alta Phase II	D.A. NAME	Post UNC-4
Project No.:	119-2528	D.A. AREA (ha)	2.70
Date:	2021-06-23		
By:	Z. Holland		

Hydrologic Parameters: CALIB NASHYD Command
Pre Development Drainage Area: Catchment Post UNC-4

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic Group	% Area	Area (ha)
Waterloo Sandy Loam	Wsl	C	100.0	2.70
				0.00
				0
				0
Total Area				2.70

Impervious Landuses Present:												
	Roadway		Sidewalk		Driveway		Building		SWMF		Subtotals	
Soils	Area	CN	Area (ha)	CN	Area	CN	Area (ha)	CN	Area	CN	Area	A*CN
Wsl	0.10	98		98		98		98		98	0.10	10.19
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
Subtotal	0.10		0		0		0		0			

Pervious Landuses Present:												
	Woodland		Meadow		Wetland		Lawn		Cultivated		Subtotals	
Soils	Area	CN	Area (ha)	CN	Area	CN	Area (ha)	CN	Area	CN	Area	A*CN
Wsl	2.21	32	0.00		0.00		0.39	49	0.00		2.60	89.69
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
Subtotal	2.21		0.00		0.00		0.39		0.00			

Composite Area Calculations		
	Total Pervious Area	2.60
	Total Impervious Area	0.10
	% Impervious	3.85%
	Composite Curve Number	37.0
	Total Area Check	2.70

Initial Abstraction and Tp Calculations

Initial Abstraction				Composite Runoff Coefficient								
Landuse	IA (mm)	Area (ha)	A * IA	Waterloo Sandy		0		0		0		
				RC	Area	RC	Area	RC	Area	RC	Area	A*RC
Woodland	10	2.21	22.07	0.18	2.21		0		0		0	0.40
Meadow	8	0.00	0.00		0		0		0		0	0.00
Wetland	16	0.00	0.00		0		0		0		0	0.00
Lawn	5	0.39	1.95	0.20	0.39		0		0		0	0.08
Cultivated	7	0.00	0.00		0		0		0		0	0.00
Impervious	2	0.10	0.21	0.95	0.10		0		0		0	0.10
Composite		2.70	8.97	Composite Runoff Coefficient								0.21

Time to Peak Inputs						Uplands			Bransby Williams		Airport	
Flow Path Description	Length (m)	Drop (m)	Slope (%)	$V/S^{0.5}$	Velocity (m/s)	Tc (hr)	Tp(hr)	TOTAL Tp (hr)	Tc (hr)	Tp(hr)	Tc (hr)	Tp(hr)
Overland	324	25	7.72%	0.6	0.17	0.54	0.36	0.36	0.19	0.12	0.44	0.30

Appropriate calculated time to peak:	0.30	Appropriate Method:	Airport

CROZIER CONSULTING ENGINEERS

Project Name:	Alta Phase II	D.A. NAME	Post EXT-1
Project No.:	119-2528	D.A. AREA (ha)	3.50
Date:	2021-06-23		
By:	Z. Holland		

Hydrologic Parameters: CALIB NASHYD Command
Pre Development Drainage Area: Catchment Post EXT-1

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic Group	% Area	Area (ha)
Dunedin Clay	Dc	C	100.0	3.50
				0
				0
				0
Total Area				3.50

Impervious Landuses Present:

Soils	Roadway Area	Roadway CN	Sidewalk Area (ha)	Sidewalk CN	Driveway Area	Driveway CN	Building Area (ha)	Building CN	SWMF Area	SWMF CN	Subtotals Area	Subtotals A*CN
Dc		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
Subtotal	0		0		0		0		0			

Pervious Landuses Present:

Soils	Woodland Area	Woodland CN	Meadow Area (ha)	Meadow CN	Wetland Area	Wetland CN	Lawn Area (ha)	Lawn CN	Cultivated Area	Cultivated CN	Subtotals Area	Subtotals A*CN
Dc	3.50	73	0.00		0.00		0.00		0.00		3.50	255.50
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
Subtotal	3.50		0.00		0.00		0.00		0.00			

Composite Area Calculations		
	Total Pervious Area	3.50
	Total Impervious Area	0
	% Impervious	0.00%
	Composite Curve Number	73.0
	Total Area Check	3.50

Initial Abstraction and Tp Calculations

Landuse	IA (mm)	Area (ha)	A * IA	Dunedin Clay RC	Dunedin Clay Area	0 RC	0 Area	0 RC	0 Area	0 RC	0 Area	A*RC
Woodland	10	3.50	35.00	0.52	3.50		0		0		0	1.82
Meadow	8	0.00	0.00		0		0		0		0	0.00
Wetland	16	0.00	0.00		0		0		0		0	0.00
Lawn	5	0.00	0.00		0		0		0		0	0.00
Cultivated	7	0.00	0.00		0		0		0		0	0.00
Impervious	2	0.00	0.00		0		0		0		0	0.00
Composite		3.50	10.00	Composite Runoff Coefficient								0.52

Flow Path Description	Length (m)	Drop (m)	Slope (%)	$V/S^{0.5}$	Velocity (m/s)	Uplands Tc (hr)	Uplands Tp(hr)	TOTAL Tp (hr)	Bransby Williams Tc (hr)	Bransby Williams Tp(hr)	Airport Tc (hr)	Airport Tp(hr)
Overland	460	160	34.78%	0.6	0.35	0.36	0.24	0.24	0.19	0.13	0.21	0.14

Appropriate calculated time to peak:	0.13	Appropriate Method:	Bransby Williams

CROZIER CONSULTING ENGINEERS

Project Name:	Alta Phase II
Project No.:	119-2528
Date:	2021-06-23
By:	Z. Holland

D.A. NAME	**Post EXT-2**
D.A. AREA (ha)	**4.10**

Hydrologic Parameters: CALIB NASHYD Command
Pre Development Drainage Area: Catchment Post EXT-2

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic Group	% Area	Area (ha)
Dunedin Clay	Dc	C	100.0	4.10
				0
				0
				0
Total Area				4.10

Impervious Landuses Present:												
	Roadway		Sidewalk		Driveway		Building		SWMF		Subtotals	
Soils	Area	CN	Area (ha)	CN	Area	CN	Area (ha)	CN	Area	CN	Area	A*CN
Dc		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
Subtotal	0		0		0		0		0			

Pervious Landuses Present:												
	Woodland		Meadow		Wetland		Lawn		Cultivated		Subtotals	
Soils	Area	CN	Area (ha)	CN	Area	CN	Area (ha)	CN	Area	CN	Area	A*CN
Dc	4.10	73	0.00		0.00		0.00		0.00		4.10	299.30
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
Subtotal	4.10		0.00		0.00		0.00		0.00			

Composite Area Calculations	Total Pervious Area	4.10
	Total Impervious Area	0
	% Impervious	0.00%
	Composite Curve Number	73.0
	Total Area Check	4.10

Initial Abstraction and Tp Calculations

Initial Abstraction				Composite Runoff Coefficient								
				Dunedin Clay		0		0		0		
Landuse	IA (mm)	Area (ha)	A * IA	RC	Area	RC	Area	RC	Area	RC	Area	A*RC
Woodland	10	4.10	41.00	0.52	4.10		0		0		0	2.13
Meadow	8	0.00	0.00		0		0		0		0	0.00
Wetland	16	0.00	0.00		0		0		0		0	0.00
Lawn	5	0.00	0.00		0		0		0		0	0.00
Cultivated	7	0.00	0.00		0		0		0		0	0.00
Impervious	2	0.00	0.00		0		0		0		0	0.00
Composite		4.10	10.00	Composite Runoff Coefficient								0.52

Time to Peak Inputs						Uplands			Bransby Williams		Airport	
Flow Path Description	Length (m)	Drop (m)	Slope (%)	$V/S^{0.5}$	Velocity (m/s)	Tc (hr)	Tp(hr)	TOTAL Tp (hr)	Tc (hr)	Tp(hr)	Tc (hr)	Tp(hr)
Overland	445	155	34.83%	0.6	0.35	0.35	0.23	0.23	0.18	0.12	0.21	0.14

Appropriate calculated time to peak:	0.12	Appropriate Method:	Bransby Williams

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CONSULTING ENGINEERS

Project Name:	Alta Phase II
Project No.:	119-2528
Date:	2021-06-23
By:	Z. Holland

D.A. NAME	**Post EXT-3**
D.A. AREA (ha)	**2.20**

Hydrologic Parameters: CALIB NASHYD Command
Pre Development Drainage Area: Catchment Post EXT-3

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic Group	% Area	Area (ha)
Dunedin Clay	Dc	C	100.0	2.20
				0
				0
				0
Total Area				2.20

Impervious Landuses Present:

	Roadway		Sidewalk		Driveway		Building		SWMF		Subtotals	
Soils	Area	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area	CN	Area	A*CN
Dc		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
Subtotal	0		0		0		0		0			

Pervious Landuses Present:

	Woodland		Meadow		Wetland		Lawn		Cultivated		Subtotals	
Soils	Area	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area	CN	Area	A*CN
Dc	2.20	73	0.00		0.00		0.00		0.00		2.20	160.60
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
Subtotal	2.20		0.00		0.00		0.00		0.00			

Composite Area Calculations		
	Total Pervious Area	2.20
	Total Impervious Area	0
	% Impervious	0.00%
	Composite Curve Number	73.0
	Total Area Check	2.20

Initial Abstraction and Tp Calculations

Initial Abstraction				Composite Runoff Coefficient								
				Dunedin Clay		0		0		0		
Landuse	IA (mm)	Area (ha)	A * IA	RC	Area	RC	Area	RC	Area	RC	Area	A*RC
Woodland	10	2.20	22.00	0.52	2.20		0		0		0	1.14
Meadow	8	0.00	0.00		0		0		0		0	0.00
Wetland	16	0.00	0.00		0		0		0		0	0.00
Lawn	5	0.00	0.00		0		0		0		0	0.00
Cultivated	7	0.00	0.00		0		0		0		0	0.00
Impervious	2	0.00	0.00		0		0		0		0	0.00
Composite		2.20	10.00	Composite Runoff Coefficient								0.52

Time to Peak Inputs						Uplands			Bransby Williams		Airport	
Flow Path Description	Length (m)	Drop (m)	Slope (%)	$V/S^{0.5}$	Velocity (m/s)	Tc (hr)	Tp(hr)	TOTAL Tp (hr)	Tc (hr)	Tp(hr)	Tc (hr)	Tp(hr)
Overland	445	155	34.83%	0.6	0.35	0.35	0.23	0.23	0.19	0.13	0.21	0.14

Appropriate calculated time to peak:	0.13	Appropriate Method:	Bransby Williams

CROZIER CONSULTING ENGINEERS

Project Name:	Alta Phase II	D.A. NAME	Post EXT-4
Project No.:	119-2528	D.A. AREA (ha)	2.60
Date:	2021-06-23		
By:	Z. Holland		

Hydrologic Parameters: CALIB NASHYD Command
Pre Development Drainage Area: Catchment Post EXT-4

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic Group	% Area	Area (ha)
Dunedin Clay	Dc	C	100.0	2.60
				0
				0
				0
Total Area				2.60

Impervious Landuses Present:												
	Roadway		Sidewalk		Driveway		Building		SWMF		Subtotals	
Soils	Area (ha)	CN	Area (ha)	CN	Area	CN	Area (ha)	CN	Area	CN	Area	A*CN
Dc		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
Subtotal	0		0		0		0		0			

Pervious Landuses Present:												
	Woodland		Meadow		Wetland		Lawn		Cultivated		Subtotals	
Soils	Area (ha)	CN	Area (ha)	CN	Area	CN	Area (ha)	CN	Area	CN	Area	A*CN
Dc	2.60	73	0.00		0.00		0.00		0.00		2.60	189.80
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
Subtotal	2.60		0.00		0.00		0.00		0.00			

Composite Area Calculations		
	Total Pervious Area	2.60
	Total Impervious Area	0
	% Impervious	0.00%
	Composite Curve Number	73.0
	Total Area Check	2.60

Initial Abstraction and Tp Calculations

Initial Abstraction				Composite Runoff Coefficient								
Landuse	IA (mm)	Area (ha)	A * IA	Dunedin Clay		0		0		0		
				RC	Area	RC	Area	RC	Area	RC	Area	A*RC
Woodland	10	2.60	26.00	0.52	2.60		0		0		0	1.35
Meadow	8	0.00	0.00		0		0		0		0	0.00
Wetland	16	0.00	0.00		0		0		0		0	0.00
Lawn	5	0.00	0.00		0		0		0		0	0.00
Cultivated	7	0.00	0.00		0		0		0		0	0.00
Impervious	2	0.00	0.00		0		0		0		0	0.00
Composite		2.60	10.00	Composite Runoff Coefficient								0.52

Time to Peak Inputs						Uplands			Bransby Williams		Airport	
Flow Path Description	Length (m)	Drop (m)	Slope (%)	$V/S^{0.5}$	Velocity (m/s)	Tc (hr)	Tp(hr)	TOTAL Tp (hr)	Tc (hr)	Tp(hr)	Tc (hr)	Tp(hr)
Overland	445	155	34.83%	0.6	0.35	0.35	0.23	0.23	0.19	0.13	0.21	0.14

Appropriate calculated time to peak:	0.13	Appropriate Method:	Bransby Williams

CROZIER CONSULTING ENGINEERS

Project Name:	Alta Phase II
Project No.:	119-2528
Date:	2021-06-23
By:	Z. Holland

D.A. NAME	**Post EXT-5**
D.A. AREA (ha)	**5.20**

Hydrologic Parameters: CALIB NASHYD Command
Pre Development Drainage Area: Catchment Post EXT-5

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic Group	% Area	Area (ha)
Dunedin Clay	Dc	C	100.0	5.20
				0
				0
				0
Total Area				5.20

Impervious Landuses Present:												
	Roadway		Sidewalk		Driveway		Building		SWMF		Subtotals	
Soils	Area	CN	Area (ha)	CN	Area	CN	Area (ha)	CN	Area	CN	Area	A*CN
Dc		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
Subtotal	0		0		0		0		0			

Pervious Landuses Present:												
	Woodland		Meadow		Wetland		Lawn		Cultivated		Subtotals	
Soils	Area	CN	Area (ha)	CN	Area	CN	Area (ha)	CN	Area	CN	Area	A*CN
Dc	5.20	73	0.00		0.00		0.00		0.00		5.20	379.60
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
Subtotal	5.20		0.00		0.00		0.00		0.00			

Composite Area Calculations		
	Total Pervious Area	5.20
	Total Impervious Area	0
	% Impervious	0.00%
	Composite Curve Number	73.0
	Total Area Check	5.20

Initial Abstraction and Tp Calculations

Initial Abstraction				Composite Runoff Coefficient								
				Dunedin Clay		0		0		0		
Landuse	IA (mm)	Area (ha)	A * IA	RC	Area	RC	Area	RC	Area	RC	Area	A*RC
Woodland	10	5.20	52.00	0.52	5.20		0		0		0	2.70
Meadow	8	0.00	0.00		0		0		0		0	0.00
Wetland	16	0.00	0.00		0		0		0		0	0.00
Lawn	5	0.00	0.00		0		0		0		0	0.00
Cultivated	7	0.00	0.00		0		0		0		0	0.00
Impervious	2	0.00	0.00		0		0		0		0	0.00
Composite		5.20	10.00	Composite Runoff Coefficient								0.52

Time to Peak Inputs						Uplands			Bransby Williams		Airport	
Flow Path Description	Length (m)	Drop (m)	Slope (%)	$V/S^{0.5}$	Velocity (m/s)	Tc (hr)	Tp(hr)	TOTAL Tp (hr)	Tc (hr)	Tp(hr)	Tc (hr)	Tp(hr)
Overland	415	140	33.73%	0.6	0.35	0.33	0.22	0.22	0.17	0.11	0.20	0.13

Appropriate calculated time to peak:	0.11	Appropriate Method:	Bransby Williams

CROZIER CONSULTING ENGINEERS

Project Name:	Flato UMV - Phase 2 (WS)	**D.A. NAME**	**SWMF**
Project No.:	1060-5609	**D.A. AREA (ha)**	**0.90**
Date:	2021-06-22		
By:	Z. Holland		

Hydrologic Parameters: CALIB STANDHYD Command
Post Development Drainage Area: Catchment SWMF

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic	% Area	Area
Kemble Silty Clay	Ksc	C	100	0.90
				0
				0
				0
Total Area Check				0.90

Impervious Landuses Present:	Roadway		Sidewalk		Driveway		Building		SWMF		Subtotals	
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area	A*CN
Ksc		98		98		98		98	0.45	98	0.45	44.10
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
Subtotal Area	0		0		0		0		0.45			

Pervious Landuses Present:	Woodland		Meadow		Wetland		Lawn		Cultivated		Subtotals	
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area	A*CN
Ksc	0		0		0		0.45	79	0		0.45	35.55
0	0		0		0		0		0		0	0
0	0		0		0		0		0		0	0
0	0		0		0		0		0		0	0
Subtotal Area	0		0		0		0.45		0			

Pervious Area Calculations	Total Pervious Area	0.45
	Composite Pervious Curve Number	79
Impervious Area Calculations	Total Directly Connected Area	0.45
	Total Indirectly Connected Area	0
	Total Impervious Area	0.45
	% X imp	50.0
	% T imp	50.0
	Total Area Check	0.90

Initial Abstraction and Tp Calculations

Landuse	IA (mm)	Area (ha)	A * IA
Woodland	10	0	0
Meadow	8	0	0
Wetland	16	0	0
Lawn	5	0.45	2.25
Cultivated	7	0	0

Land Use	IA (mm)	Slope (%)	Travel Length (m)	Manning's n
Pervious	5.0	2	20	0.25
Impervious	2.0	2	77	0.013

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Project Name:	Alta Phase II
Project No.:	119-2528
Date:	2021-06-13
By:	E. Horner

D.A. NAME	**EXT-6**
D.A. AREA (ha)	**6.00**

Hydrologic Parameters: CALIB NASHYD Command
Post Development Drainage Area: Catchment EXT-6

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic Group	% Area	Area (ha)
Dunedin Clay	Dc	C	100.0	6.00
				0
				0
				0
Total Area				6.00

Impervious Landuses Present:	Roadway		Sidewalk		Driveway		Building		SWMF		Subtotals	
Soils	Area	CN	Area (ha)	CN	Area	CN	Area (ha)	CN	Area	CN	Area	A*CN
Dc		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
Subtotal	0		0		0		0		0			

Pervious Landuses Present:	Woodland		Meadow		Wetland		Lawn		Cultivated		Subtotals	
Soils	Area	CN	Area (ha)	CN	Area	CN	Area (ha)	CN	Area	CN	Area	A*CN
Dc	6.00	73	0.00		0.00		0.00		0.00		6.00	438.00
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
Subtotal	6.00		0.00		0.00		0.00		0.00			

Composite Area Calculations		
	Total Pervious Area	6.00
	Total Impervious Area	0
	% Impervious	0.00%
	Composite Curve Number	73.0
	Total Area Check	6.00

Initial Abstraction and Tp Calculations

Initial Abstraction				Composite Runoff Coefficient								
				Dunedin Clay		0		0		0		
Landuse	IA (mm)	Area (ha)	A * IA	RC	Area	RC	Area	RC	Area	RC	Area	A*RC
Woodland	10	6.00	60.00	0.30	6.00		0		0		0	1.80
Meadow	8	0.00	0.00		0		0		0		0	0.00
Wetland	16	0.00	0.00		0		0		0		0	0.00
Lawn	5	0.00	0.00		0		0		0		0	0.00
Cultivated	7	0.00	0.00		0		0		0		0	0.00
Impervious	2	0.00	0.00		0		0		0		0	0.00
Composite		6.00	10.00	Composite Runoff Coefficient								0.30

Time to Peak Inputs						Uplands			Bransby Williams		Airport	
Flow Path Description	Length (m)	Drop (m)	Slope (%)	$V/S^{0.5}$	Velocity (m/s)	Tc (hr)	Tp(hr)	TOTAL Tp (hr)	Tc (hr)	Tp(hr)	Tc (hr)	Tp(hr)
Overland	550	30	5.45%	0.6	0.14	1.09	0.73	0.73	0.31	0.21	0.58	0.39

Appropriate calculated time to peak:	0.39	Appropriate Method:	Airport

CROZIER CONSULTING ENGINEERS

Project Name:	Alta Phase II	D.A. NAME	EXT-7
Project No.:	119-2528	D.A. AREA (ha)	6.00
Date:	2021-06-13		
By:	E. Horner		

Hydrologic Parameters: CALIB NASHYD Command
Post Development Drainage Area: Catchment EXT-7

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic Group	% Area	Area (ha)
Dunedin Clay	Dc	C	100.0	6.00
				0
				0
				0
Total Area				6.00

Impervious Landuses Present:												
	Roadway		Sidewalk		Driveway		Building		SWMF		Subtotals	
Soils	Area	CN	Area (ha)	CN	Area	CN	Area (ha)	CN	Area	CN	Area	A*CN
Dc		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
Subtotal	0		0		0		0		0			

Pervious Landuses Present:												
	Woodland		Meadow		Wetland		Lawn		Cultivated		Subtotals	
Soils	Area	CN	Area (ha)	CN	Area	CN	Area (ha)	CN	Area	CN	Area	A*CN
Dc	6.00	73	0.00		0.00		0.00		0.00		6.00	438.00
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
Subtotal	6.00		0.00		0.00		0.00		0.00			

Composite Area Calculations	Total Pervious Area	6.00
	Total Impervious Area	0
	% Impervious	0.00%
	Composite Curve Number	73.0
	Total Area Check	6.00

Initial Abstraction and Tp Calculations

Initial Abstraction				Composite Runoff Coefficient								
Landuse	IA (mm)	Area (ha)	A * IA	Dunedin Clay		0		0		0		
				RC	Area	RC	Area	RC	Area	RC	Area	A*RC
Woodland	10	6.00	60.00	0.35	6.00		0		0		0	2.10
Meadow	8	0.00	0.00		0		0		0		0	0.00
Wetland	16	0.00	0.00		0		0		0		0	0.00
Lawn	5	0.00	0.00		0		0		0		0	0.00
Cultivated	7	0.00	0.00		0		0		0		0	0.00
Impervious	2	0.00	0.00		0		0		0		0	0.00
Composite		6.00	10.00	Composite Runoff Coefficient								0.35

Time to Peak Inputs						Uplands			Bransby Williams		Airport	
Flow Path Description	Length (m)	Drop (m)	Slope (%)	$V/S^{0.5}$	Velocity (m/s)	Tc (hr)	Tp(hr)	TOTAL Tp (hr)	Tc (hr)	Tp(hr)	Tc (hr)	Tp(hr)
Overland	450	135	30.00%	0.6	0.33	0.38	0.25	0.25	0.18	0.12	0.28	0.19

Appropriate calculated time to peak:	0.19	Appropriate Method:	Airport

CROZIER CONSULTING ENGINEERS

Project Name:	Alta Phase II	**D.A. NAME**	**EXT-8**
Project No.:	119-2528	**D.A. AREA (ha)**	**13.10**
Date:	2022-02-11		
By:	J. Kerschbaumer		

Hydrologic Parameters: CALIB NASHYD Command
Post Development Drainage Area: Catchment EXT-8

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic Group	% Area	Area (ha)
Kemble Silty Clay	Ksc	C	100.0	13.10
				0
				0
				0
Total Area				13.10

Impervious Landuses Present:												
	Roadway		Sidewalk		Driveway		Building		SWMF		Subtotals	
Soils	Area	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area	CN	Area	A*CN
Ksc	0.21	98		98	0.12	98	0.24	98		98	0.5725	56.105
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
Subtotal	0.21		0		0.12		0.24		0			

Pervious Landuses Present:												
	Woodland		Meadow		Wetland		Lawn		Cultivated		Subtotals	
Soils	Area	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area	CN	Area	A*CN
Ksc	10.17	73	0.00		0.00		2.36	79	0.00		12.53	928.64
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
Subtotal	10.17		0.00		0.00		2.36		0.00			

Composite Area Calculations	Total Pervious Area	12.53
	Total Impervious Area	0.5725
	% Impervious	4.37%
	Composite Curve Number	75.2
	Total Area Check	13.10

Initial Abstraction and Tp Calculations

Initial Abstraction				Composite Runoff Coefficient								
				Kemble Silty Clay		0		0		0		
Landuse	IA (mm)	Area (ha)	A * IA	RC	Area	RC	Area	RC	Area	RC	Area	A*RC
Woodland	10	10.17	101.72	0.30	10.17		0		0		0	3.05
Meadow	8	0.00	0.00		0		0		0		0	0.00
Wetland	16	0.00	0.00		0		0		0		0	0.00
Lawn	5	2.36	11.78	0.20	2		0		0		0	0.47
Cultivated	7	0.00	0.00		0		0		0		0	0.00
Impervious	2	0.57	1.15	0.95	1		0		0		0	0.54
Composite		13.10	8.75	Composite Runoff Coefficient								0.31

Time to Peak Inputs						Uplands			Bransby Williams		Airport	
Flow Path Description	Length (m)	Drop (m)	Slope (%)	$V/S^{0.5}$	Velocity (m/s)	Tc (hr)	Tp(hr)	TOTAL Tp (hr)	Tc (hr)	Tp(hr)	Tc (hr)	Tp(hr)
Overland	800	70	8.75%	0.6	0.18	1.25	0.84	0.84	0.38	0.26	0.59	0.40

Appropriate calculated time to peak:	0.40	Appropriate Method:	Airport

CROZIER CONSULTING ENGINEERS

Project Name:	Alta Phase II	D.A. NAME	EXT-9
Project No.:	119-2528	D.A. AREA (ha)	7.00
Date:	2021-06-16		
By:	E. Horner		

Hydrologic Parameters: CALIB NASHYD Command
Post Development Drainage Area: Catchment EXT-9

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic Group	% Area	Area (ha)
Granby Sand	Gs	C	100.0	7.00
				0
				0
				0
Total Area				7.00

Impervious Landuses Present:												
	Roadway		Sidewalk		Driveway		Building		SWMF		Subtotals	
Soils	Area (ha)	CN	Area (ha)	CN	Area	CN	Area (ha)	CN	Area	CN	Area	A*CN
Gs	0.44	98		98	0.08	98	0.16	98		98	0.682	66.836
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
Subtotal	0.44		0		0.08		0.16		0			

Pervious Landuses Present:												
	Woodland		Meadow		Wetland		Lawn		Cultivated		Subtotals	
Soils	Area (ha)	CN	Area (ha)	CN	Area	CN	Area (ha)	CN	Area	CN	Area	A*CN
Gs	4.69	73	0.00		0.00		1.62	79	0.00		6.32	470.96
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
Subtotal	4.69		0.00		0.00		1.62		0.00			

Composite Area Calculations		
	Total Pervious Area	6.32
	Total Impervious Area	0.682
	% Impervious	9.74%
	Composite Curve Number	76.8
	Total Area Check	7.00

Initial Abstraction and Tp Calculations

Initial Abstraction				Composite Runoff Coefficient								
				Granby Sand		0		0		0		
Landuse	IA (mm)	Area (ha)	A * IA	RC	Area	RC	Area	RC	Area	RC	Area	A*RC
Woodland	10	4.69	46.94	0.25	4.69		0		0		0	1.17
Meadow	8	0.00	0.00		0		0		0		0	0.00
Wetland	16	0.00	0.00		0		0		0		0	0.00
Lawn	5	1.62	8.12	0.15	2		0		0		0	0.24
Cultivated	7	0.00	0.00		0		0		0		0	0.00
Impervious	2	0.68	1.36	0.95	1		0		0		0	0.65
Composite		7.00	8.06	Composite Runoff Coefficient								0.30

Time to Peak Inputs						Uplands			Bransby Williams		Airport	
Flow Path Description	Length (m)	Drop (m)	Slope (%)	$V/S^{0.5}$	Velocity (m/s)	Tc (hr)	Tp(hr)	TOTAL Tp (hr)	Tc (hr)	Tp(hr)	Tc (hr)	Tp(hr)
Overland	350	15	4.29%	0.6	0.12	0.78	0.52	0.52	0.20	0.14	0.51	0.34

Appropriate calculated time to peak:	0.34	Appropriate Method:	Airport

CROZIER CONSULTING ENGINEERS

Project Name:	Alta Phase II	D.A. NAME	EXT-10A
Project No.:	119-2528	D.A. AREA (ha)	27.90
Date:	2021-06-22		
By:	E. Horner		

Hydrologic Parameters: CALIB NASHYD Command
Post Development Drainage Area: Catchment EXT-10A

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic Group	% Area	Area (ha)
Brighton Sand	Brs	A	66.7	18.61
Granby Sand	Gs	C	33.3	9
				0
				0
Total Area				27.90

Impervious Landuses Present:

Soils	Roadway Area	Roadway CN	Sidewalk Area (ha)	Sidewalk CN	Driveway Area	Driveway CN	Building Area (ha)	Building CN	SWMF Area	SWMF CN	Subtotals Area	Subtotals A*CN
Brs	0.41	98		98	0.37	98	0.75	98		98	1.53	150.24
Gs	0.21	98		98	0.19	98	0.37	98		98	0.77	75.29
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
Subtotal	0.62		0		0.56		1.12		0			

Pervious Landuses Present:

Soils	Woodland Area	Woodland CN	Meadow Area (ha)	Meadow CN	Wetland Area	Wetland CN	Lawn Area (ha)	Lawn CN	Cultivated Area	Cultivated CN	Subtotals Area	Subtotals A*CN
Brs	8.49	32	0.00		3.69	50	4.90	49	0.00		17.08	696.14
Gs	5.41	73	0.00		0.00	50	3.12	79	0.00		8.52	640.83
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
Subtotal	13.89		0.00		3.69		8.01		0.00			

Composite Area Calculations		
	Total Pervious Area	25.60
	Total Impervious Area	2.3014
	% Impervious	8.25%
	Composite Curve Number	56.0
	Total Area Check	27.90

Initial Abstraction and Tp Calculations

Landuse	IA (mm)	Area (ha)	A * IA	Brighton Sand RC	Brighton Sand Area	Granby Sand RC	Granby Sand Area	0 RC	0 Area	0 RC	0 Area	A*RC
Woodland	10	13.89	138.95	0.18	8.49	0.35	5		0		0	3.42
Meadow	8	0.00	0.00		0		0		0		0	0.00
Wetland	16	3.69	59.04	0.05	4		0		0		0	0.18
Lawn	5	8.01	40.07	0.15	5	0.15	3		0		0	1.20
Cultivated	7	0.00	0.00		0		0		0		0	0.00
Impervious	2	2.30	4.60	0.95	2	0.95	1		0		0	2.19
Composite		27.90	8.70	Composite Runoff Coefficient								0.25

Flow Path Description	Length (m)	Drop (m)	Slope (%)	$V/S^{0.5}$	Velocity (m/s)	Uplands Tc (hr)	Uplands Tp(hr)	TOTAL Tp (hr)	Bransby Williams Tc (hr)	Bransby Williams Tp(hr)	Airport Tc (hr)	Airport Tp(hr)
Overland	415	140	33.73%	0.6	0.35	0.33	0.22	0.22	0.14	0.09	0.29	0.20

Appropriate calculated time to peak:	0.20	Appropriate Method:	Airport

CROZIER CONSULTING ENGINEERS

Project Name:	Alta Phase II
Project No.:	119-2528
Date:	2021-06-13
By:	E. Horner

D.A. NAME	**EXT-10B**
D.A. AREA (ha)	**4.90**

Hydrologic Parameters: CALIB NASHYD Command
Post Development Drainage Area: Catchment EXT-10B

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic Group	% Area	Area (ha)
Brighton Sand	Brs	A	100.0	4.90
				0
				0
				0
Total Area				4.90

Impervious Landuses Present:												
	Roadway		Sidewalk		Driveway		Building		SWMF		Subtotals	
Soils	Area (ha)	CN	Area (ha)	CN	Area	CN	Area (ha)	CN	Area	CN	Area	A*CN
Brs	0.7	98		98	0.1	98	0.4	98		98	1.2	117.6
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
Subtotal	0.7		0		0.1		0.4		0			

Pervious Landuses Present:												
	Woodland		Meadow		Wetland		Lawn		Cultivated		Subtotals	
Soils	Area (ha)	CN	Area (ha)	CN	Area	CN	Area (ha)	CN	Area	CN	Area	A*CN
Brs	1.85	32	0.00		0.00		1.85	49	0.00		3.70	149.85
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
Subtotal	1.85		0.00		0.00		1.85		0.00			

Composite Area Calculations		
	Total Pervious Area	3.70
	Total Impervious Area	1.2
	% Impervious	24.49%
	Composite Curve Number	54.6
	Total Area Check	4.90

Initial Abstraction and Tp Calculations

Initial Abstraction				Composite Runoff Coefficient								
				Brighton Sand		0		0		0		
Landuse	IA (mm)	Area (ha)	A * IA	RC	Area	RC	Area	RC	Area	RC	Area	A*RC
Woodland	10	1.85	18.50	0.12	1.85		0		0		0	0.22
Meadow	8	0.00	0.00		0		0		0		0	0.00
Wetland	16	0.00	0.00		0		0		0		0	0.00
Lawn	5	1.85	9.25	0.15	2		0		0		0	0.28
Cultivated	7	0.00	0.00		0		0		0		0	0.00
Impervious	2	1.20	2.40	0.95	1		0		0		0	1.14
Composite		4.90	6.15	Composite Runoff Coefficient								0.33

Time to Peak Inputs						Uplands			Bransby Williams		Airport	
Flow Path Description	Length (m)	Drop (m)	Slope (%)	$V/S^{0.5}$	Velocity (m/s)	Tc (hr)	Tp(hr)	TOTAL Tp (hr)	Tc (hr)	Tp(hr)	Tc (hr)	Tp(hr)
Overland	75	5	6.67%	0.6	0.15	0.13	0.09	0.09	0.04	0.03	0.25	0.17

Appropriate calculated time to peak:	0.17	Appropriate Method:	Airport

Time of concentration set to 15 min per Town standards

CROZIER CONSULTING ENGINEERS

Project Name:	Alta Phase II	D.A. NAME	EXT-11
Project No.:	119-2528	D.A. AREA (ha)	3.90
Date:	2021-06-16		
By:	E. Horner		

Hydrologic Parameters: CALIB NASHYD Command
Post Development Drainage Area: Catchment EXT-11

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic Group	% Area	Area (ha)
Kemble Silty Clay/Dunedin Clay	Ksc/Dc	C	90.0	3.51
Waterloo Sandy Loam	Wsl	A	10.0	0
				0
				0
Total Area				3.90

Impervious Landuses Present:

Soils	Roadway Area (ha)	Roadway CN	Sidewalk Area (ha)	Sidewalk CN	Driveway Area	Driveway CN	Building Area (ha)	Building CN	SWMF Area	SWMF CN	Subtotals Area	Subtotals A*CN
Ksc/Dc	0.12	98		98	0.06	98	0.12	98		98	0.299	29.302
Wsl		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
Subtotal	0.12		0		0.06		0.12		0			

Pervious Landuses Present:

Soils	Woodland Area (ha)	Woodland CN	Meadow Area (ha)	Meadow CN	Wetland Area	Wetland CN	Lawn Area (ha)	Lawn CN	Cultivated Area	Cultivated CN	Subtotals Area	Subtotals A*CN
Ksc/Dc	2.22	73	0.00		0.00		1.00	79	0.00		3.21	240.38
Wsl	0.27	32	0.00		0.00		0.12	49	0.00		0.39	14.47
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
Subtotal	2.49		0.00		0.00		1.11		0.00			

Composite Area Calculations		
	Total Pervious Area	3.60
	Total Impervious Area	0.299
	% Impervious	7.67%
	Composite Curve Number	72.9
	Total Area Check	3.90

Initial Abstraction and Tp Calculations

Landuse	IA (mm)	Area (ha)	A * IA	Kemble Silty RC	Kemble Silty Area	Waterloo Sandy Loam RC	Waterloo Sandy Loam Area	0 RC	0 Area	0 RC	0 Area	A*RC
Woodland	10	2.49	24.89	0.52	2.22	0.35	0		0		0	1.25
Meadow	8	0.00	0.00		0		0		0		0	0.00
Wetland	16	0.00	0.00		0		0		0		0	0.00
Lawn	5	1.11	5.56	0.20	1	0.20	0		0		0	0.22
Cultivated	7	0.00	0.00		0		0		0		0	0.00
Impervious	2	0.30	0.60	0.95	0	0.95	0		0		0	0.28
Composite		3.90	7.96	Composite Runoff Coefficient								0.45

Flow Path Description	Length (m)	Drop (m)	Slope (%)	$V/S^{0.5}$	Velocity (m/s)	Uplands Tc (hr)	Uplands Tp(hr)	TOTAL Tp (hr)	Bransby Williams Tc (hr)	Bransby Williams Tp(hr)	Airport Tc (hr)	Airport Tp(hr)
Overland	230	30	13.04%	0.6	0.22	0.29	0.20	0.20	0.11	0.08	0.23	0.15

Appropriate calculated time to peak:	0.08	Appropriate Method:	Bransby Williams

CROZIER CONSULTING ENGINEERS

Project Name:	Alta Phase II
Project No.:	119-2528
Date:	2021-06-08
By:	E. Horner

D.A. NAME	EXT-12
D.A. AREA (ha)	5.20

Hydrologic Parameters: CALIB NASHYD Command
Post Development Drainage Area: Catchment EXT-12

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic Group	% Area	Area (ha)
Dunedin Clay	Dc	C	100.0	5.20
				0
				0
				0
Total Area				5.20

Impervious Landuses Present:												
	Roadway		Sidewalk		Driveway		Building		SWMF		Subtotals	
Soils	Area (ha)	CN	Area (ha)	CN	Area	CN	Area (ha)	CN	Area	CN	Area	A*CN
Dc		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
Subtotal	0		0		0		0		0			

Pervious Landuses Present:												
	Woodland		Meadow		Wetland		Lawn		Cultivated		Subtotals	
Soils	Area (ha)	CN	Area (ha)	CN	Area	CN	Area (ha)	CN	Area	CN	Area	A*CN
Dc	5.20	73	0.00		0.00		0.00		0.00		5.20	379.60
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
Subtotal	5.20		0.00		0.00		0.00		0.00			

Composite Area Calculations		
	Total Pervious Area	5.20
	Total Impervious Area	0
	% Impervious	0.00%
	Composite Curve Number	73.0
	Total Area Check	5.20

Initial Abstraction and Tp Calculations

Initial Abstraction				Composite Runoff Coefficient								
				Dunedin Clay		0		0		0		
Landuse	IA (mm)	Area (ha)	A * IA	RC	Area	RC	Area	RC	Area	RC	Area	A*RC
Woodland	10	5.20	52.00	0.35	5.20		0		0		0	1.82
Meadow	8	0.00	0.00		0		0		0		0	0.00
Wetland	16	0.00	0.00		0		0		0		0	0.00
Lawn	5	0.00	0.00		0		0		0		0	0.00
Cultivated	7	0.00	0.00		0		0		0		0	0.00
Impervious	2	0.00	0.00	0.95	0		0		0		0	0.00
Composite		5.20	10.00	Composite Runoff Coefficient								0.35

Time to Peak Inputs						Uplands			Bransby Williams		Airport	
Flow Path Description	Length (m)	Drop (m)	Slope (%)	$V/S^{0.5}$	Velocity (m/s)	Tc (hr)	Tp(hr)	TOTAL Tp (hr)	Tc (hr)	Tp(hr)	Tc (hr)	Tp(hr)
Overland	470	165	35.11%	0.6	0.36	0.37	0.25	0.25	0.19	0.12	0.27	0.18

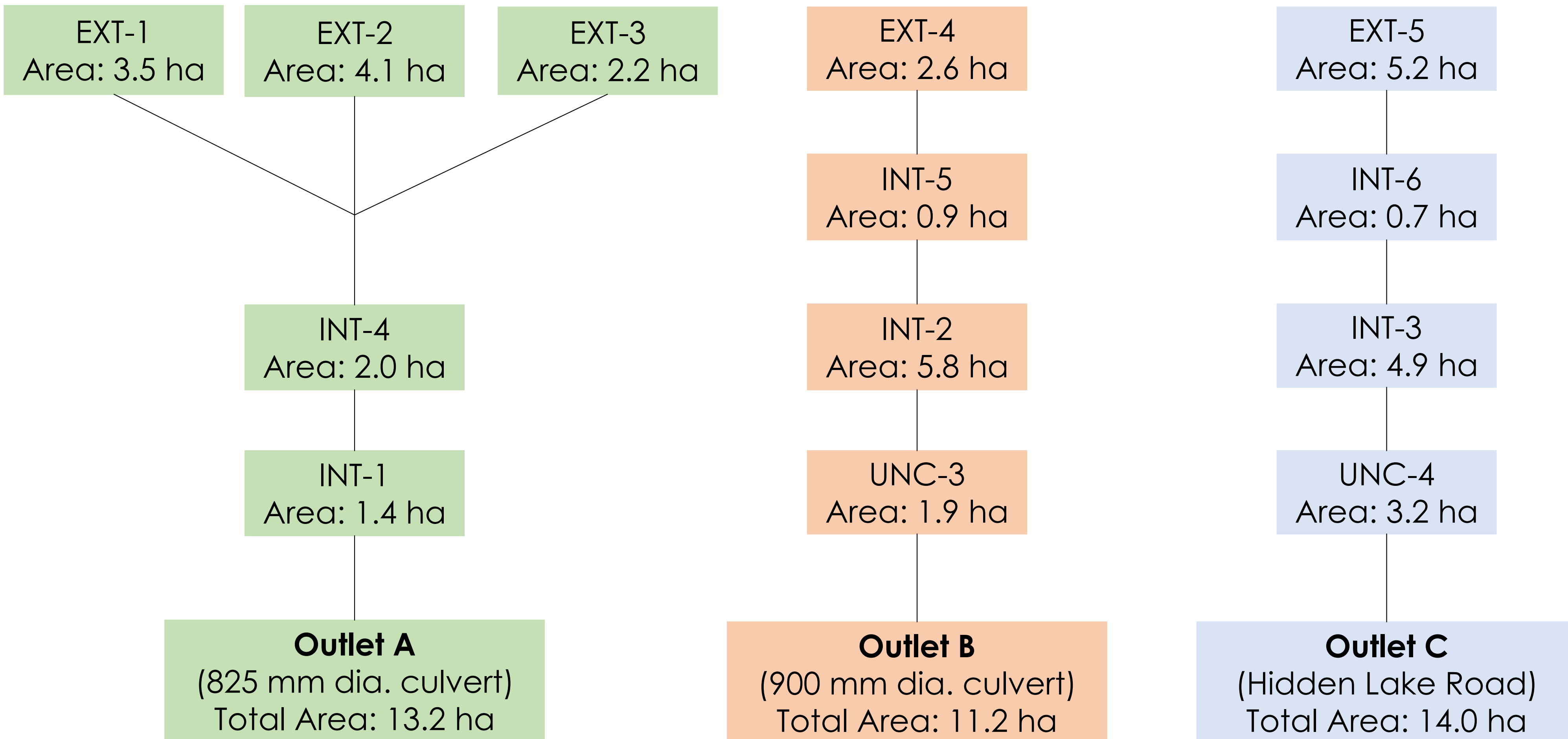
Appropriate calculated time to peak:	0.18	Appropriate Method:	Airport

APPENDIX D

SWMHYMO Input and Output Files

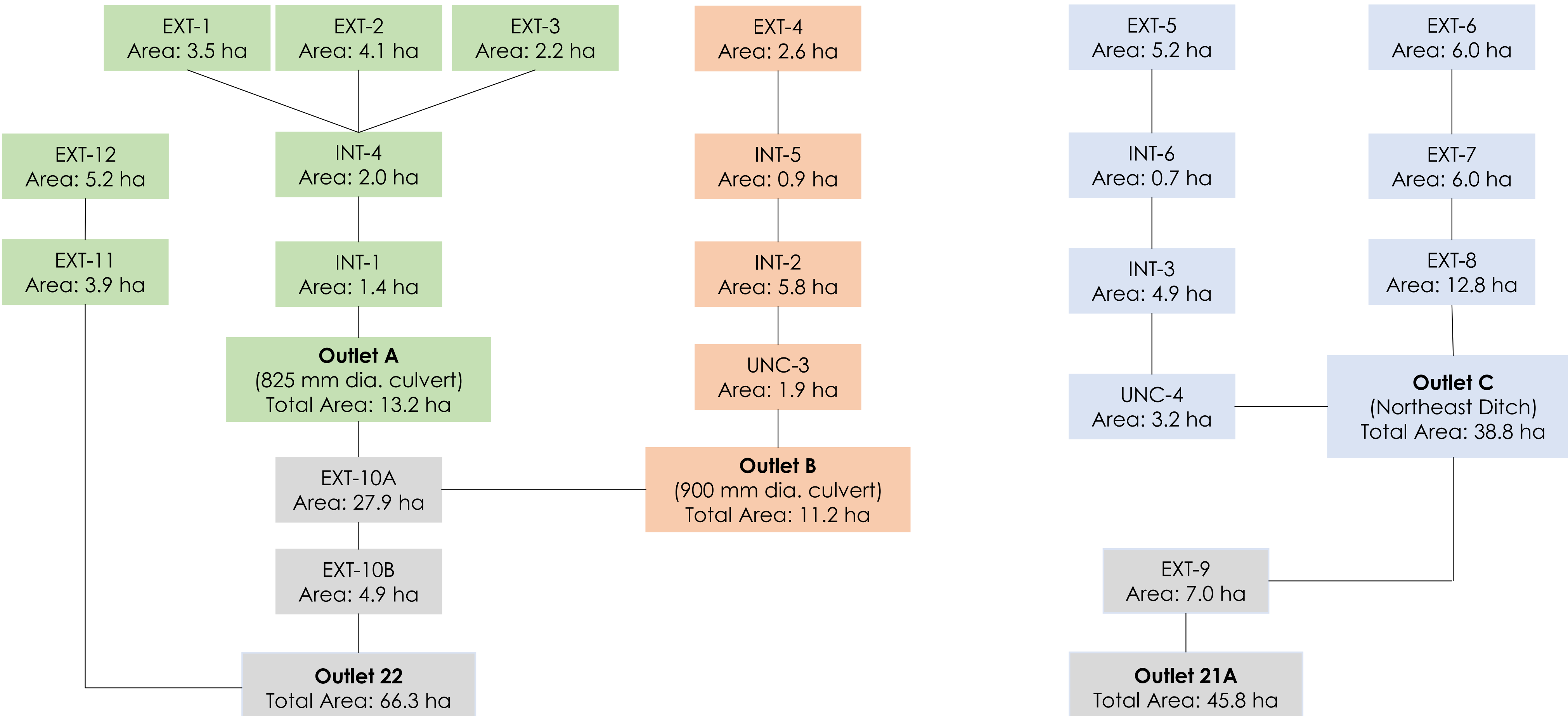
Alta Phase II Pre-Development SWMHYMO Model

Project Name: Alta Phase II
Project Number: 119-2528
Date: 2022/02/11



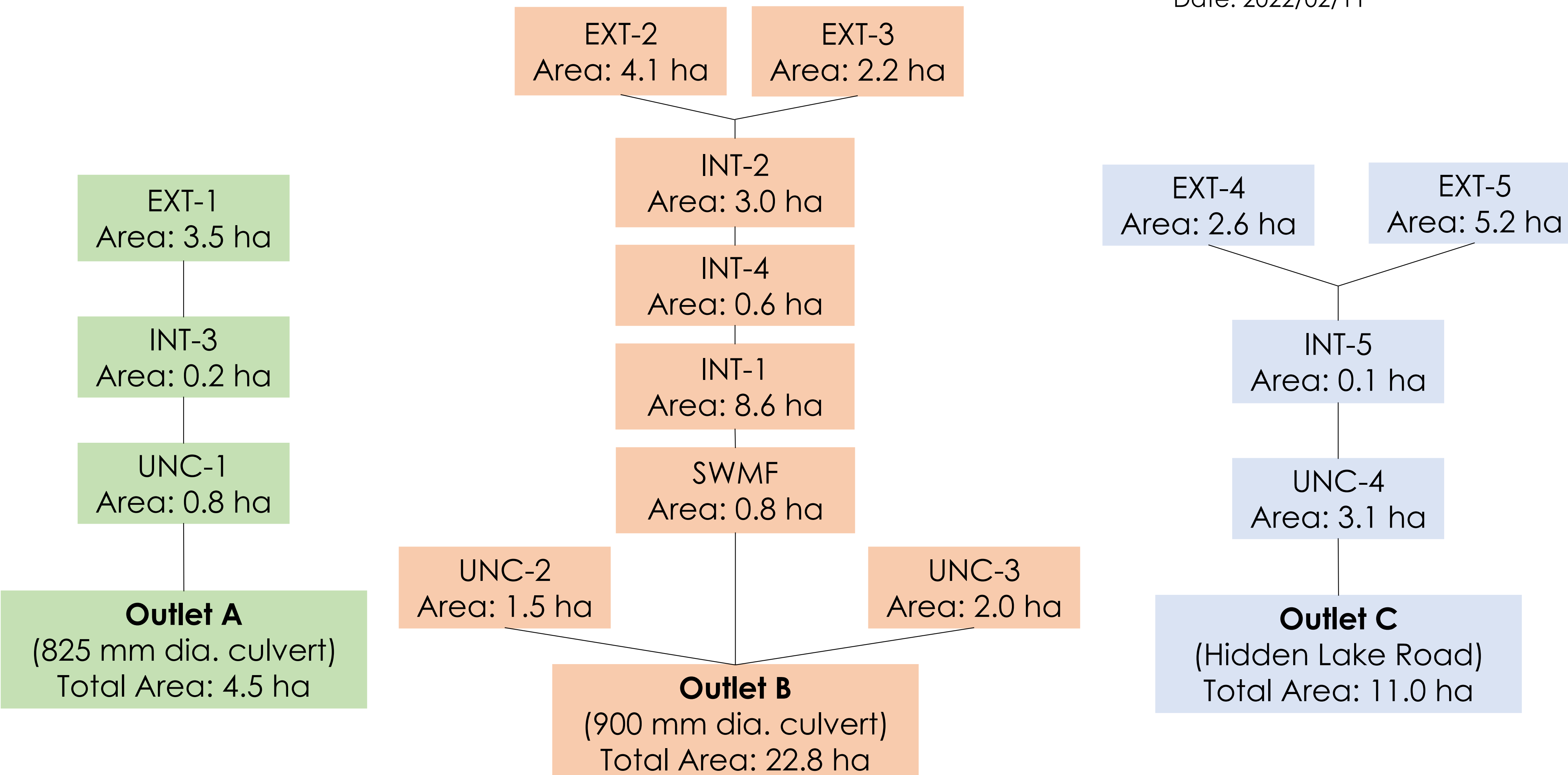
Alta Phase II Pre-Development SWMHYMO Model (Including External Drainage Corridor)

Project Name: Alta Phase II
Project Number: 119-2528
Date: 2022/02/11



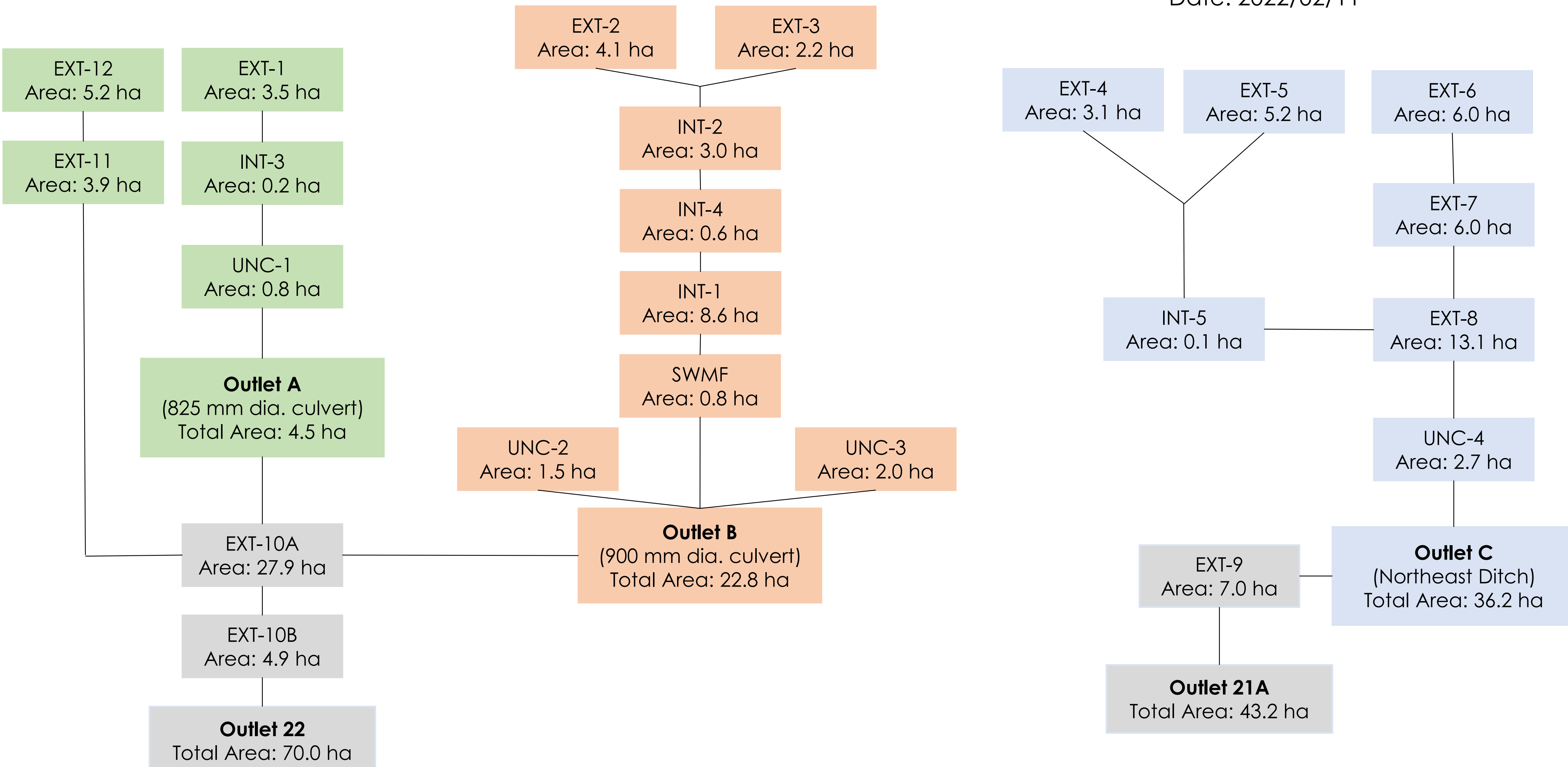
Alta Phase II Post-Development SWMHYMO Model

Project Name: Alta Phase II
Project Number: 119-2528
Date: 2022/02/11



Alta Phase II Post-Development SWMHYMO Model (Including External Drainage Corridor)

Project Name: Alta Phase II
Project Number: 119-2528
Date: 2022/02/11



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

 SSSSS   W   W   M   M   H   H   Y   Y   M   M    OOO         222     000    11
77777 ========
 S       W W W   MM MM   H   H    Y Y    MM MM   O   O          2    0   0   11
7   7
 SSSSS   W W W   M M M   HHHHH     Y     M M M   O   O          2    0   0   11
   7 Ver4.05.0
     S    W W    M   M   H   H     Y     M   M   O   O       222     0   0   11
  7  APR 2017
 SSSSS    W W    M   M   H   H     Y     M   M    OOO        2       0   0   11
 7   ========
                                                             2       0   0   11
7    # 3737016
      StormWater Management HYdrologic Model                  222     000    11
7    ========

*******************************************************************************
**************
 **************************************  SWMHYMO Ver4.05.0
***************************************
 ******************  A single event and continuous hydrologic simulation model
*******************
 ******************     based on the principles of HYMO and its successors
*******************
 ******************                 OTTHYMO-83 and OTTHYMO-89.
*******************

*******************************************************************************
**************
 ****************** Distributed by:  J.F. Sabourin and Associates Inc.
*******************
 ******************                  Ottawa,  Ontario: (613) 836-3884
*******************
 ******************                  Gatineau, Quebec: (819) 243-6858
*******************
 ******************                  E-Mail: swmhymo@jfsa.com
*******************

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```



```
 ++++++++++++++++++ Licensed user: C.F. Crozier & Associates Inc.
++++++++++++++++++
 +++++++++++++++++                Collingwood           SERIAL#:3737016
++++++++++++++++++

+++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
+++++++++++++++

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

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

 ********************************   S U M M A R Y   O U T P U T
*********************************

*******************************************************************************
**************
 *                 RUN DATE: 2021-06-30     TIME: 12:08:14     RUN COUNTER: 000002
             *

*******************************************************************************
**************
 * Input   file: C:\SWMHYMO\Projects\119-2528 Alta Phase
II\2021.06.30\25mm\PRE_25mm.Dat          *
 * Output  file: C:\SWMHYMO\Projects\119-2528 Alta Phase
II\2021.06.30\25mm\PRE_25mm.out          *
 * Summary file: C:\SWMHYMO\Projects\119-2528 Alta Phase
II\2021.06.30\25mm\PRE_25mm.sum          *
 * User comments:
             *
 *
1:_____________________________________________________________________________
____________*
 *
2:_____________________________________________________________________________
____________*
```

```
 *
3:_________________________________________________________________________________
____________*

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

#*******************************************************************************

#  Project Name: [ALTA PHASE II]    Project Number: [119-2528]

#  Date        : 2021.06.30

#  Modified    : 2021.06.30

#  Modeller    : [Z. Holland]

#  Company     : C.F. Crozier & Associates Inc.

#  License #   : 3737016

#*******************************************************************************

 RUN#:COMMAND#
R0001:C00001-------------------------------------------------------------------
----------------
     START
      [TZERO =    .00 hrs on        0]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   0 ]
      [NRUN  = 0001 ]
```



```
#-----------------|----------25mm-------------------------------------------|

#-----------------|---------------------------------------------------------|

R0001:C00002-------------------------------------------------------------------
----------------
     READ STORM
      Filename = 25mm.stm

      Comment  = 25 mm Event

      [SDT= 4.80:SDUR=   3.04:PTOT=  25.05]
#-----------------|---------------------------------------------------------|

#-----------------|-----------PRE-DEVELOPMENT-------------------------------|

#-----------------|---------------------------------------------------------|

#-----------------|----------------OUTLET A---------------------------------|

#-----------------|---------------------------------------------------------|

R0001:C00003------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.2 05:EXT-1          3.50     .020 No_date    1:14
2.08 .083     .000
      [CN= 73.0: N= 3.00: Tp=  .13]
R0001:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.2 02:EXT-2          4.10     .024 No_date    1:13
2.08 .083     .000
      [CN= 73.0: N= 3.00: Tp=  .12]
R0001:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
```

```
   CALIB NASHYD          1.2 03:EXT-3          2.20     .012 No_date    1:14
2.08 .083     .000
     [CN= 73.0: N= 3.00: Tp=  .13]
R0001:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
   CALIB NASHYD          1.2 04:INT-4          2.00     .015 No_date    1:04
2.08 .083     .000
     [CN= 73.0: N= 3.00: Tp=  .05]
R0001:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
   CALIB NASHYD          1.2 06:INT-1          1.40     .010 No_date    1:25
3.09 .123     .000
     [CN= 76.8: N= 3.00: Tp=  .27]
#-----------------|------------------------------------------------------------|


#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 800mm CULVERT-----|


#-----------------|------------------------------------------------------------|


#-----------------|------------------------------------------------------------|


R0001:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
   ADD HYD               1.2 05:EXT-1          3.50     .020 No_date    1:14
2.08  n/a     .000
                   +     1.2 02:EXT-2          4.10     .024 No_date    1:13
2.08  n/a     .000
                   +     1.2 03:EXT-3          2.20     .012 No_date    1:14
2.08  n/a     .000
                   +     1.2 04:INT-4          2.00     .015 No_date    1:04
2.08  n/a     .000
                   +     1.2 06:INT-1          1.40     .010 No_date    1:25
3.09  n/a     .000
                SUM=     1.2 01:825mm         13.20     .075 No_date    1:13
2.19  n/a     .000
#-----------------|------------------------------------------------------------|


#-----------------|-----------------OUTLET B---------------------------------|
```



```
R0001:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
   CALIB NASHYD          1.2 04:EXT-4          2.60     .015 No_date    1:14
2.08 .083     .000
     [CN= 73.0: N= 3.00: Tp=  .13]
R0001:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
   CALIB NASHYD          1.2 05:INT-5           .90     .007 No_date    1:04
2.08 .083     .000
     [CN= 73.0: N= 3.00: Tp=  .05]
R0001:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
   CALIB NASHYD          1.2 06:INT-2          5.80     .029 No_date    1:31
2.51 .100     .000
     [CN= 74.7: N= 3.00: Tp=  .31]
R0001:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
   CALIB NASHYD          1.2 07:UNC-3          1.90     .013 No_date    1:06
1.92 .077     .000
     [CN= 69.7: N= 3.00: Tp=  .06]
#-----------------|------------------------------------------------------------|


#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 900mm CULVERT     |


#-----------------|------------------------------------------------------------|


#-----------------|------------------------------------------------------------|


R0001:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
   ADD HYD               1.2 04:EXT-4          2.60     .015 No_date    1:14
2.08  n/a     .000
                   +     1.2 05:INT-5           .90     .007 No_date    1:04
2.08  n/a     .000
                   +     1.2 06:INT-2          5.80     .029 No_date    1:31
2.51  n/a     .000
                   +     1.2 07:UNC-3          1.90     .013 No_date    1:06
```

```
 PRE_25mm
1.92  n/a     .000
                 SUM=     1.2 02:900mm         11.20     .050 No_date    1:21
2.27  n/a     .000
#-----------------|-----------------------------------------------------------|


#-----------------|-----------------OUTLET C----------------------------------|


R0001:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.2 05:EXT-5          5.20     .031 No_date    1:12
2.08 .083     .000
      [CN= 73.0: N= 3.00: Tp=  .11]
R0001:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.2 06:INT-6           .70     .005 No_date    1:04
2.08 .083     .000
      [CN= 73.0: N= 3.00: Tp=  .05]
R0001:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.2 07:INT-3          4.90     .023 No_date    1:38
2.60 .104     .000
      [CN= 74.8: N= 3.00: Tp=  .39]
R0001:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.2 08:UNC-4          3.20     .003 No_date    1:34
.47 .019     .000
      [CN= 34.4: N= 3.00: Tp=  .32]
#-----------------|-----------------------------------------------------------|


#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO OUTLET C--------------|


#-----------------|-----------------------------------------------------------|


R0001:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.2 05:EXT-5          5.20     .031 No_date    1:12
2.08  n/a     .000
                    +     1.2 06:INT-6           .70     .005 No_date    1:04
```


```
 PRE_25mm
2.08  n/a     .000
                    +     1.2 07:INT-3          4.90     .023 No_date    1:38
2.60  n/a     .000
                    +     1.2 08:UNC-4          3.20     .003 No_date    1:34
.47  n/a     .000
                 SUM=     1.2 03:OUTLET C      14.00     .048 No_date    1:18
1.89  n/a     .000
R0001:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.2 04:Ext-6          6.00     .021 No_date    1:42
2.08 .083     .000
      [CN= 73.0: N= 3.00: Tp=  .39]
#-----------------|-----------------------------------------------------------|


R0001:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.2 09:Ext-7          6.00     .029 No_date    1:20
2.08 .083     .000
      [CN= 73.0: N= 3.00: Tp=  .19]
#-----------------|-----------------------------------------------------------|


R0001:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.2 10:Ext-8         12.80     .060 No_date    1:39
2.66 .106     .000
      [CN= 75.2: N= 3.00: Tp=  .40]
#-----------------|-----------------------------------------------------------|


#-----------------|-----------------------------------------------------------|


#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE NE DITCH          |


#-----------------|-----------------------------------------------------------|


#-----------------|-----------------------------------------------------------|
```

```
R0001:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD              1.2 03:OUTLET C      14.00     .048 No_date    1:18
1.89  n/a     .000
                    +     1.2 04:Ext-6          6.00     .021 No_date    1:42
2.08  n/a     .000
                    +     1.2 09:Ext-7          6.00     .029 No_date    1:20
2.08  n/a     .000
                    +     1.2 10:Ext-8         12.80     .060 No_date    1:39
2.66  n/a     .000
                 SUM=     1.2 06:NE_DITCH      38.80     .150 No_date    1:32
2.20  n/a     .000
R0001:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD         1.2 04:Ext-9          7.00     .043 No_date    1:32
3.08 .123     .000
      [CN= 76.8: N= 3.00: Tp=  .34]
#------------------|-----------------------------------------------------------|

#------------------|  THE ADD HYD BELOW MODELS Subwatershed 21A Outflow--------|

#------------------|-----------------------------------------------------------|

#------------------|-----------------------------------------------------------|

R0001:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD              1.2 06:NE_DITCH      38.80     .150 No_date    1:32
2.20  n/a     .000
                    +     1.2 04:Ext-9          7.00     .043 No_date    1:32
3.08  n/a     .000
                 SUM=     1.2 05:21A           45.80     .192 No_date    1:32
2.34  n/a     .000
R0001:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD         1.2 04:Ext-10A       27.90     .083 No_date    1:20
1.24 .049     .000
      [CN= 56.0: N= 3.00: Tp=  .20]
```



```
#------------------|-----------------------------------------------------------|

R0001:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD         1.2 03:Ext-11         3.90     .038 No_date    1:07
2.62 .105     .000
      [CN= 72.9: N= 3.00: Tp=  .08]
#------------------|-----------------------------------------------------------|

R0001:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD         1.2 06:Ext-12         5.20     .026 No_date    1:20
2.08 .083     .000
      [CN= 73.0: N= 3.00: Tp=  .18]
#------------------|-----------------------------------------------------------|

#------------------|  THE ADD HYD BELOW MODELS FLOW INTO EX. STORAGE AREA------|

#------------------|-----------------------------------------------------------|

#------------------|-----------------------------------------------------------|

R0001:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD              1.2 01:825mm         13.20     .075 No_date    1:13
2.19  n/a     .000
                    +     1.2 02:900mm         11.20     .050 No_date    1:21
2.27  n/a     .000
                    +     1.2 04:Ext-10A       27.90     .083 No_date    1:20
1.24  n/a     .000
                    +     1.2 03:Ext-11         3.90     .038 No_date    1:07
2.62  n/a     .000
                    +     1.2 06:Ext-12         5.20     .026 No_date    1:20
2.08  n/a     .000
                 SUM=     1.2 05:WET-STO       61.40     .255 No_date    1:16
1.79  n/a     .000
```

```
 PRE_25mm
R0001:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.2 05:WET-STO       61.40     .255 No_date    1:16
1.79  n/a     .000
                out <=    1.2 04:22            61.40     .144 No_date    1:51
1.79  n/a     .000
           overflow <=    1.2 06:OVF             .00     .000 No_date    0:00
.00  n/a     .000
     {MxStoUsed=.2487E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=
0.hrs}
R0001:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.2 03:Ext-10B        4.90     .022 No_date    1:14
1.55 .062     .000
      [CN= 54.6: N= 3.00: Tp=  .17]
#-----------------|-----------------------------------------------------------|

#-----------------|  THE ADD HYD BELOW MODELS SUBWATERSHED 22 OUTFLOW --------|

#-----------------|-----------------------------------------------------------|

#-----------------|-----------------------------------------------------------|

R0001:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.2 03:Ext-10B        4.90     .022 No_date    1:14
1.55  n/a     .000
                    +     1.2 04:22            61.40     .144 No_date    1:51
1.79  n/a     .000
                    +     1.2 06:OVF             .00     .000 No_date    0:00
.00  n/a     .000
                 SUM=     1.2 05:22            66.30     .156 No_date    1:26
1.77  n/a     .000
R0001:C00032----------------------------------------------------------------------
----------------
    FINISH
----------------------------------------------------------------------------------
----------------
**********************************************************************************
****************
```



```
 PRE_25mm
     WARNINGS / ERRORS / NOTES
     -------------------------
   Simulation ended on 2021-06-30     at 12:08:14
==================================================================================
================
```

```
PRE_KCHU

=================================================================================
===============

 SSSSS   W   W   M   M   H   H   Y   Y   M   M    OOO         222     000    11
77777 ========
 S       W W W   MM MM   H   H    Y Y    MM MM   O   O          2    0   0   11
7   7
 SSSSS   W W W   M M M   HHHHH     Y     M M M   O   O          2    0   0   11
   7 Ver4.05.0
     S    W W    M   M   H   H     Y     M   M   O   O       222     0   0   11
  7  APR 2017
 SSSSS    W W    M   M   H   H     Y     M   M    OOO        2       0   0   11
 7   ========
                                                             2       0   0   11
7    # 3737016
       StormWater Management HYdrologic Model                 222     000    11
7    ========

*********************************************************************************
***************
 **************************************  SWMHYMO Ver4.05.0
***************************************
 ******************  A single event and continuous hydrologic simulation model
*******************
 ******************     based on the principles of HYMO and its successors
*******************
 ******************                OTTHYMO-83 and OTTHYMO-89.
*******************

*********************************************************************************
***************
 ****************** Distributed by:  J.F. Sabourin and Associates Inc.
*******************
 ******************                 Ottawa,  Ontario: (613) 836-3884
*******************
 ******************                 Gatineau, Quebec: (819) 243-6858
*******************
 ******************                 E-Mail: swmhymo@jfsa.com
*******************

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


+++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
+++++++++++++++
```



```
PRE_KCHU
 +++++++++++++++++ Licensed user: C.F. Crozier & Associates Inc.
++++++++++++++++++
 +++++++++++++++++               Collingwood          SERIAL#:3737016
++++++++++++++++++

+++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
+++++++++++++++


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

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


 ********************************   S U M M A R Y   O U T P U T
*********************************

*********************************************************************************
***************
 *               RUN DATE: 2021-06-30     TIME: 12:16:42     RUN COUNTER: 000003
             *

*********************************************************************************
***************
 * Input   file: C:\SWMHYMO\Projects\119-2528 Alta Phase
II\2021.06.30\Craigleith_KCHU\PRE_KCHU.Da*
 *              t
             *
 * Output  file: C:\SWMHYMO\Projects\119-2528 Alta Phase
II\2021.06.30\Craigleith_KCHU\PRE_KCHU.ou*
 *              t
             *
 * Summary file: C:\SWMHYMO\Projects\119-2528 Alta Phase
II\2021.06.30\Craigleith_KCHU\PRE_KCHU.su*
 *              m
             *
 * User comments:
             *
```

```
 PRE_KCHU
 *
1:_______________________________________________________________________________
____________*
 *
2:_______________________________________________________________________________
____________*
 *
3:_______________________________________________________________________________
____________*

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


#*******************************************************************************


#  Project Name: [ALTA PHASE II]    Project Number: [119-2528]


#  Date        : 2021.06.30


#  Modified    : 2021.06.30


#  Modeller    : [Z. Holland]


#  Company     : C.F. Crozier & Associates Inc.


#  License #   : 3737016


#*******************************************************************************


 RUN#:COMMAND#
R0001:C00001---------------------------------------------------------------------
```



```
 PRE_KCHU
----------------
     START
      [TZERO =    .00 hrs on        0]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   0 ]
      [NRUN  = 0001 ]
#-----------------|----------------------------------------------------------|


#-----------------|----------2 YEAR KCHU-------------------------------------|


#-----------------|----------------------------------------------------------|


R0001:C00002---------------------------------------------------------------------
----------------
     READ STORM
      Filename = 2yr.stm

      Comment  = 2-Year 6 hr Kefer Chu Chicago Storm Event

      [SDT=60.00:SDUR=   6.00:PTOT=  37.90]
#-----------------|----------------------------------------------------------|


#-----------------|-----------PRE-DEVELOPMENT--------------------------------|


#-----------------|----------------------------------------------------------|


#-----------------|-----------------OUTLET A---------------------------------|


#-----------------|----------------------------------------------------------|


R0001:C00003------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
```

```
 PRE_KCHU
    CALIB NASHYD          1.0 05:EXT-1          3.50     .068 No_date    3:01
6.39 .169     .000
      [CN= 73.0: N= 3.00: Tp=  .13]
R0001:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 02:EXT-2          4.10     .081 No_date    3:01
6.39 .169     .000
      [CN= 73.0: N= 3.00: Tp=  .12]
R0001:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 03:EXT-3          2.20     .043 No_date    3:01
6.39 .169     .000
      [CN= 73.0: N= 3.00: Tp=  .13]
R0001:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 04:INT-4          2.00     .044 No_date    3:00
6.39 .169     .000
      [CN= 73.0: N= 3.00: Tp=  .05]
R0001:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 06:INT-1          1.40     .028 No_date    3:06
8.37 .221     .000
      [CN= 76.8: N= 3.00: Tp=  .27]
#------------------|------------------------------------------------------------|

#------------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 800mm CULVERT-----|

#------------------|------------------------------------------------------------|

#------------------|------------------------------------------------------------|

R0001:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 05:EXT-1          3.50     .068 No_date    3:01
6.39  n/a     .000
                    +     1.0 02:EXT-2          4.10     .081 No_date    3:01
6.39  n/a     .000
                    +     1.0 03:EXT-3          2.20     .043 No_date    3:01
6.39  n/a     .000
                    +     1.0 04:INT-4          2.00     .044 No_date    3:00
```



```
 PRE_KCHU
6.39  n/a     .000
                    +     1.0 06:INT-1          1.40     .028 No_date    3:06
8.37  n/a     .000
                 SUM=     1.0 01:825mm         13.20     .261 No_date    3:01
6.60  n/a     .000
#------------------|------------------------------------------------------------|

#------------------|-----------------OUTLET B----------------------------------|

R0001:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 04:EXT-4          2.60     .051 No_date    3:01
  6.39 .169     .000
      [CN= 73.0: N= 3.00: Tp=  .13]
R0001:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 05:INT-5           .90     .020 No_date    3:00
6.39 .169     .000
      [CN= 73.0: N= 3.00: Tp=  .05]
R0001:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 06:INT-2          5.80     .094 No_date    3:08
7.24 .191     .000
      [CN= 74.7: N= 3.00: Tp=  .31]
R0001:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 07:UNC-3          1.90     .037 No_date    3:00
5.81 .153     .000
      [CN= 69.7: N= 3.00: Tp=  .06]
#------------------|------------------------------------------------------------|

#------------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 900mm CULVERT     |

#------------------|------------------------------------------------------------|

#------------------|------------------------------------------------------------|
```

```
R0001:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD              1.0 04:EXT-4          2.60     .051 No_date    3:01
6.39  n/a     .000
                    +     1.0 05:INT-5           .90     .020 No_date    3:00
6.39  n/a     .000
                    +     1.0 06:INT-2          5.80     .094 No_date    3:08
7.24  n/a     .000
                    +     1.0 07:UNC-3          1.90     .037 No_date    3:00
5.81  n/a     .000
                 SUM=     1.0 02:900mm         11.20     .191 No_date    3:01
6.73  n/a     .000
#-----------------|---------------------------------------------------------|


#-----------------|-----------------OUTLET C---------------------------------|


R0001:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 05:EXT-5          5.20     .105 No_date    3:01
6.39 .169     .000
      [CN= 73.0: N= 3.00: Tp=  .11]
R0001:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 06:INT-6           .70     .015 No_date    3:00
6.39 .169     .000
      [CN= 73.0: N= 3.00: Tp=  .05]
R0001:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 07:INT-3          4.90     .071 No_date    3:12
7.39 .195     .000
      [CN= 74.8: N= 3.00: Tp=  .39]
R0001:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 08:UNC-4          3.20     .011 No_date    3:09
1.55 .041     .000
      [CN= 34.4: N= 3.00: Tp=  .32]
#-----------------|---------------------------------------------------------|


#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO OUTLET C-------------|
```



```
#-----------------|---------------------------------------------------------|


R0001:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD              1.0 05:EXT-5          5.20     .105 No_date    3:01
6.39  n/a     .000
                    +     1.0 06:INT-6           .70     .015 No_date    3:00
6.39  n/a     .000
                    +     1.0 07:INT-3          4.90     .071 No_date    3:12
7.39  n/a     .000
                    +     1.0 08:UNC-4          3.20     .011 No_date    3:09
1.55  n/a     .000
                 SUM=     1.0 03:OUTLET C      14.00     .188 No_date    3:01
5.63  n/a     .000
R0001:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 04:Ext-6          6.00     .075 No_date    3:13
6.39 .169     .000
      [CN= 73.0: N= 3.00: Tp=  .39]
#-----------------|---------------------------------------------------------|


R0001:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 09:Ext-7          6.00     .106 No_date    3:03
6.39 .169     .000
      [CN= 73.0: N= 3.00: Tp=  .19]
#-----------------|---------------------------------------------------------|


R0001:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 10:Ext-8         12.80     .187 No_date    3:13
7.53 .199     .000
      [CN= 75.2: N= 3.00: Tp=  .40]
#-----------------|---------------------------------------------------------|


#-----------------|---------------------------------------------------------|
```

```
#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE NE DITCH          |
#-----------------|-----------------------------------------------------------|
#-----------------|-----------------------------------------------------------|
R0001:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD              1.0 03:OUTLET C      14.00     .188 No_date    3:01
5.63  n/a     .000
                    +     1.0 04:Ext-6          6.00     .075 No_date    3:13
6.39  n/a     .000
                    +     1.0 09:Ext-7          6.00     .106 No_date    3:03
6.39  n/a     .000
                    +     1.0 10:Ext-8         12.80     .187 No_date    3:13
7.53  n/a     .000
                 SUM=     1.0 06:NE_DITCH      38.80     .520 No_date    3:04
6.49  n/a     .000
R0001:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD         1.0 04:Ext-9          7.00     .125 No_date    3:09
8.36 .220     .000
      [CN= 76.8: N= 3.00: Tp=  .34]
#-----------------|-----------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS Subwatershed 21A Outflow--------|
#-----------------|-----------------------------------------------------------|
#-----------------|-----------------------------------------------------------|
R0001:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD              1.0 06:NE_DITCH      38.80     .520 No_date    3:04
```



```
6.49  n/a     .000
                    +     1.0 04:Ext-9          7.00     .125 No_date    3:09
8.36  n/a     .000
                 SUM=     1.0 05:21A           45.80     .639 No_date    3:05
6.78  n/a     .000
R0001:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD         1.0 04:Ext-10A       27.90     .276 No_date    3:04
3.73 .098     .000
      [CN= 56.0: N= 3.00: Tp=  .20]
#-----------------|-----------------------------------------------------------|
R0001:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD         1.0 03:Ext-11         3.90     .089 No_date    3:00
7.21 .190     .000
      [CN= 72.9: N= 3.00: Tp=  .08]
#-----------------|-----------------------------------------------------------|
R0001:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD         1.0 06:Ext-12         5.20     .093 No_date    3:03
6.39 .169     .000
      [CN= 73.0: N= 3.00: Tp=  .18]
#-----------------|-----------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO EX. STORAGE AREA------|
#-----------------|-----------------------------------------------------------|
#-----------------|-----------------------------------------------------------|
R0001:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD              1.0 01:825mm         13.20     .261 No_date    3:01
6.60  n/a     .000
```

```
 PRE_KCHU
                    +     1.0 02:900mm         11.20     .191 No_date    3:01
6.73  n/a     .000
                    +     1.0 04:Ext-10A       27.90     .276 No_date    3:04
3.73  n/a     .000
                    +     1.0 03:Ext-11         3.90     .089 No_date    3:00
7.21  n/a     .000
                    +     1.0 06:Ext-12         5.20     .093 No_date    3:03
6.39  n/a     .000
                 SUM=     1.0 05:WET-STO       61.40     .900 No_date    3:01
5.34  n/a     .000
R0001:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 05:WET-STO       61.40     .900 No_date    3:01
5.34  n/a     .000
                out <=    1.0 04:22            61.40     .203 No_date    3:46
5.34  n/a     .000
           overflow <=    1.0 06:OVF             .00     .000 No_date    0:00
.00  n/a     .000
     {MxStoUsed=.1458E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=
0.hrs}
R0001:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 03:Ext-10B        4.90     .055 No_date    3:02
4.15 .109     .000
      [CN= 54.6: N= 3.00: Tp=  .17]
#-----------------|------------------------------------------------------------|

#-----------------|  THE ADD HYD BELOW MODELS SUBWATERSHED 22 OUTFLOW --------|

#-----------------|------------------------------------------------------------|

#-----------------|------------------------------------------------------------|

R0001:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 03:Ext-10B        4.90     .055 No_date    3:02
4.15  n/a     .000
                    +     1.0 04:22            61.40     .203 No_date    3:46
5.34  n/a     .000
                    +     1.0 06:OVF             .00     .000 No_date    0:00
```



```
 PRE_KCHU
.00  n/a     .000
                 SUM=     1.0 05:22            66.30     .239 No_date    3:05
5.25  n/a     .000
#-----------------|------------------------------------------------------------|

#-----------------|----------5 YEAR KCHU---------------------------------------|

#-----------------|------------------------------------------------------------|

R0001:C00032------------------------------------------------------------------------
----------------
     READ STORM
      Filename = 5yr.stm

      Comment  = 5-Year 6 hr Kifer Chu Chicago Storm Event

      [SDT=60.00:SDUR=   6.00:PTOT=  52.70]
#-----------------|------------------------------------------------------------|

#-----------------|-----------PRE-DEVELOPMENT--------------------------------|

#-----------------|------------------------------------------------------------|

#-----------------|-----------------OUTLET A---------------------------------|

#-----------------|------------------------------------------------------------|

R0001:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 05:EXT-1          3.50     .131 No_date    3:01
13.34 .253     .000
      [CN= 73.0: N= 3.00: Tp=  .13]
```

```
R0001:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 02:EXT-2          4.10     .155 No_date    3:01
13.34 .253     .000
      [CN= 73.0: N= 3.00: Tp=  .12]
R0001:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 03:EXT-3          2.20     .082 No_date    3:01
13.34 .253     .000
      [CN= 73.0: N= 3.00: Tp=  .13]
R0001:C00036------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 04:INT-4          2.00     .082 No_date    3:00
13.34 .253     .000
      [CN= 73.0: N= 3.00: Tp=  .05]
R0001:C00037------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 06:INT-1          1.40     .053 No_date    3:05
16.44 .312     .000
      [CN= 76.8: N= 3.00: Tp=  .27]
#-----------------|-----------------------------------------------------------|

#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 800mm CULVERT-----|

#-----------------|-----------------------------------------------------------|

#-----------------|-----------------------------------------------------------|

R0001:C00038------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 05:EXT-1          3.50     .131 No_date    3:01
13.34  n/a     .000
                    +     1.0 02:EXT-2          4.10     .155 No_date    3:01
13.34  n/a     .000
                    +     1.0 03:EXT-3          2.20     .082 No_date    3:01
13.34  n/a     .000
                    +     1.0 04:INT-4          2.00     .082 No_date    3:00
13.34  n/a     .000
                    +     1.0 06:INT-1          1.40     .053 No_date    3:05
16.44  n/a     .000
```



```
                 SUM=     1.0 01:825mm         13.20     .497 No_date    3:00
13.67  n/a     .000
#-----------------|-----------------------------------------------------------|

#-----------------|-----------------OUTLET B---------------------------------|

R0001:C00039------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 04:EXT-4          2.60     .097 No_date    3:01
13.34 .253     .000
      [CN= 73.0: N= 3.00: Tp=  .13]
R0001:C00040------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 05:INT-5           .90     .037 No_date    3:00
13.34 .253     .000
      [CN= 73.0: N= 3.00: Tp=  .05]
R0001:C00041------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 06:INT-2          5.80     .184 No_date    3:07
14.69 .279     .000
      [CN= 74.7: N= 3.00: Tp=  .31]
R0001:C00042------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 07:UNC-3          1.90     .070 No_date    3:00
12.14 .230     .000
      [CN= 69.7: N= 3.00: Tp=  .06]
#-----------------|-----------------------------------------------------------|

#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 900mm CULVERT     |

#-----------------|-----------------------------------------------------------|

#-----------------|-----------------------------------------------------------|

R0001:C00043------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
```

```
    ADD HYD              1.0 04:EXT-4         2.60     .097 No_date    3:01
13.34  n/a     .000
                    +     1.0 05:INT-5          .90     .037 No_date    3:00
13.34  n/a     .000
                    +     1.0 06:INT-2         5.80     .184 No_date    3:07
14.69  n/a     .000
                    +     1.0 07:UNC-3         1.90     .070 No_date    3:00
12.14  n/a     .000
                 SUM=     1.0 02:900mm        11.20     .372 No_date    3:01
13.84  n/a     .000
#-----------------|---------------------------------------------------------|


#-----------------|-----------------OUTLET C--------------------------------|


R0001:C00044------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD         1.0 05:EXT-5         5.20     .199 No_date    3:01
13.34 .253     .000
      [CN= 73.0: N= 3.00: Tp=  .11]
R0001:C00045------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD         1.0 06:INT-6          .70     .029 No_date    3:00
13.34 .253     .000
      [CN= 73.0: N= 3.00: Tp=  .05]
R0001:C00046------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD         1.0 07:INT-3         4.90     .141 No_date    3:11
14.89 .283     .000
      [CN= 74.8: N= 3.00: Tp=  .39]
R0001:C00047------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD         1.0 08:UNC-4         3.20     .023 No_date    3:09
3.50 .066     .000
      [CN= 34.4: N= 3.00: Tp=  .32]
#-----------------|---------------------------------------------------------|


#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO OUTLET C-------------|


#-----------------|---------------------------------------------------------|
```



```
R0001:C00048------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD              1.0 05:EXT-5         5.20     .199 No_date    3:01
13.34  n/a     .000
                    +     1.0 06:INT-6          .70     .029 No_date    3:00
13.34  n/a     .000
                    +     1.0 07:INT-3         4.90     .141 No_date    3:11
14.89  n/a     .000
                    +     1.0 08:UNC-4         3.20     .023 No_date    3:09
3.50  n/a     .000
                 SUM=     1.0 03:OUTLET C     14.00     .370 No_date    3:01
11.64  n/a     .000
R0001:C00049------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD         1.0 04:Ext-6         6.00     .154 No_date    3:11
13.34 .253     .000
      [CN= 73.0: N= 3.00: Tp=  .39]
#-----------------|---------------------------------------------------------|


R0001:C00050------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD         1.0 09:Ext-7         6.00     .207 No_date    3:03
13.34 .253     .000
      [CN= 73.0: N= 3.00: Tp=  .19]
#-----------------|---------------------------------------------------------|


R0001:C00051------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD         1.0 10:Ext-8        12.80     .368 No_date    3:11
15.13 .287     .000
      [CN= 75.2: N= 3.00: Tp=  .40]
#-----------------|---------------------------------------------------------|


#-----------------|---------------------------------------------------------|


#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE NE DITCH         |
```

```
#-----------------|----------------------------------------------------------|


#-----------------|----------------------------------------------------------|


R0001:C00052------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD              1.0 03:OUTLET C      14.00     .370 No_date    3:01
11.64  n/a     .000
                    +     1.0 04:Ext-6          6.00     .154 No_date    3:11
13.34  n/a     .000
                    +     1.0 09:Ext-7          6.00     .207 No_date    3:03
13.34  n/a     .000
                    +     1.0 10:Ext-8         12.80     .368 No_date    3:11
15.13  n/a     .000
                 SUM=     1.0 06:NE_DITCH      38.80    1.043 No_date    3:03
13.32  n/a     .000
R0001:C00053------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD         1.0 04:Ext-9          7.00     .238 No_date    3:08
16.42 .312     .000
      [CN= 76.8: N= 3.00: Tp=  .34]
#-----------------|----------------------------------------------------------|


#-----------------|  THE ADD HYD BELOW MODELS Subwatershed 21A Outflow--------|


#-----------------|----------------------------------------------------------|


#-----------------|----------------------------------------------------------|


R0001:C00054------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD              1.0 06:NE_DITCH      38.80    1.043 No_date    3:03
13.32  n/a     .000
                    +     1.0 04:Ext-9          7.00     .238 No_date    3:08
16.42  n/a     .000
```



```
                 SUM=     1.0 05:21A           45.80    1.273 No_date    3:04
13.79  n/a     .000
R0001:C00055------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD         1.0 04:Ext-10A       27.90     .554 No_date    3:03
7.95 .151     .000
      [CN= 56.0: N= 3.00: Tp=  .20]
#-----------------|----------------------------------------------------------|


R0001:C00056------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD         1.0 03:Ext-11         3.90     .161 No_date    3:00
14.38 .273     .000
      [CN= 72.9: N= 3.00: Tp=  .08]
#-----------------|----------------------------------------------------------|


R0001:C00057------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD         1.0 06:Ext-12         5.20     .182 No_date    3:02
13.34 .253     .000
      [CN= 73.0: N= 3.00: Tp=  .18]
#-----------------|----------------------------------------------------------|


#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO EX. STORAGE AREA------|


#-----------------|----------------------------------------------------------|


#-----------------|----------------------------------------------------------|


R0001:C00058------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD              1.0 01:825mm         13.20     .497 No_date    3:00
13.67  n/a     .000
                    +     1.0 02:900mm         11.20     .372 No_date    3:01
13.84  n/a     .000
                    +     1.0 04:Ext-10A       27.90     .554 No_date    3:03
```

```
7.95  n/a     .000
                    +     1.0 03:Ext-11         3.90     .161 No_date    3:00
14.38  n/a     .000
                    +     1.0 06:Ext-12         5.20     .182 No_date    3:02
13.34  n/a     .000
                 SUM=     1.0 05:WET-STO       61.40    1.752 No_date    3:01
11.12  n/a     .000
R0001:C00059------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 05:WET-STO       61.40    1.752 No_date    3:01
11.12  n/a     .000
                out <=    1.0 04:22            61.40     .282 No_date    4:13
11.12  n/a     .000
           overflow <=    1.0 06:OVF             .00     .000 No_date    0:00
.00  n/a     .000
     {MxStoUsed=.3829E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=
0.hrs}
R0001:C00060------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 03:Ext-10B        4.90     .105 No_date    3:02
8.41 .160     .000
      [CN= 54.6: N= 3.00: Tp=  .17]
#-----------------|-----------------------------------------------------------|


#-----------------|  THE ADD HYD BELOW MODELS SUBWATERSHED 22 OUTFLOW --------|


#-----------------|-----------------------------------------------------------|


#-----------------|-----------------------------------------------------------|


R0001:C00061------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 03:Ext-10B        4.90     .105 No_date    3:02
8.41  n/a     .000
                    +     1.0 04:22            61.40     .282 No_date    4:13
11.12  n/a     .000
                    +     1.0 06:OVF             .00     .000 No_date    0:00
.00  n/a     .000
                 SUM=     1.0 05:22            66.30     .349 No_date    3:05
10.92  n/a     .000
```



```
#-----------------|-----------------------------------------------------------|


#-----------------|----------10 YEAR KCHU-------------------------------------|


#-----------------|-----------------------------------------------------------|


R0001:C00062---------------------------------------------------------------------
----------------
     READ STORM
      Filename = 10yr.stm

      Comment  = 10yr 6 hr Kifer Chu Chicago Storm Event

      [SDT=60.00:SDUR=   6.00:PTOT=  66.00]
#-----------------|-----------------------------------------------------------|


#-----------------|-----------PRE-DEVELOPMENT---------------------------------|


#-----------------|-----------------------------------------------------------|


#-----------------|-----------------OUTLET A---------------------------------|


#-----------------|-----------------------------------------------------------|


R0001:C00063------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 05:EXT-1          3.50     .199 No_date    3:01
20.91 .317     .000
      [CN= 73.0: N= 3.00: Tp=  .13]
R0001:C00064------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 02:EXT-2          4.10     .236 No_date    3:01
```

```
20.91 .317     .000
      [CN= 73.0: N= 3.00: Tp=  .12]
R0001:C00065------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 03:EXT-3          2.20     .125 No_date    3:01
20.91 .317     .000
      [CN= 73.0: N= 3.00: Tp=  .13]
R0001:C00066------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 04:INT-4          2.00     .123 No_date    3:00
20.91 .317     .000
      [CN= 73.0: N= 3.00: Tp=  .05]
R0001:C00067------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 06:INT-1          1.40     .079 No_date    3:05
24.96 .378     .000
      [CN= 76.8: N= 3.00: Tp=  .27]
#-----------------|----------------------------------------------------------|

#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 800mm CULVERT-----|

#-----------------|----------------------------------------------------------|

#-----------------|----------------------------------------------------------|

R0001:C00068------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 05:EXT-1          3.50     .199 No_date    3:01
20.91  n/a     .000
                    +     1.0 02:EXT-2          4.10     .236 No_date    3:01
20.91  n/a     .000
                    +     1.0 03:EXT-3          2.20     .125 No_date    3:01
20.91  n/a     .000
                    +     1.0 04:INT-4          2.00     .123 No_date    3:00
20.91  n/a     .000
                    +     1.0 06:INT-1          1.40     .079 No_date    3:05
24.96  n/a     .000
                 SUM=     1.0 01:825mm         13.20     .756 No_date    3:00
21.34  n/a     .000
#-----------------|----------------------------------------------------------|
```



```
#-----------------|-----------------OUTLET B---------------------------------|

R0001:C00069------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 04:EXT-4          2.60     .148 No_date    3:01
20.91 .317     .000
      [CN= 73.0: N= 3.00: Tp=  .13]
R0001:C00070------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 05:INT-5           .90     .055 No_date    3:00
20.91 .317     .000
      [CN= 73.0: N= 3.00: Tp=  .05]
R0001:C00071------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 06:INT-2          5.80     .285 No_date    3:06
22.68 .344     .000
      [CN= 74.7: N= 3.00: Tp=  .31]
R0001:C00072------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 07:UNC-3          1.90     .106 No_date    3:00
19.12 .290     .000
      [CN= 69.7: N= 3.00: Tp=  .06]
#-----------------|----------------------------------------------------------|

#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 900mm CULVERT     |

#-----------------|----------------------------------------------------------|

#-----------------|----------------------------------------------------------|

R0001:C00073------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 04:EXT-4          2.60     .148 No_date    3:01
20.91  n/a     .000
                    +     1.0 05:INT-5           .90     .055 No_date    3:00
```

```
 PRE_KCHU
20.91  n/a     .000
                    +     1.0 06:INT-2          5.80     .285 No_date    3:06
22.68  n/a     .000
                    +     1.0 07:UNC-3          1.90     .106 No_date    3:00
19.12  n/a     .000
                 SUM=     1.0 02:900mm         11.20     .574 No_date    3:00
21.52  n/a     .000
#-----------------|-----------------------------------------------------------|
```

```
#-----------------|-----------------OUTLET C----------------------------------|
```

```
R0001:C00074------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 05:EXT-5          5.20     .302 No_date    3:01
20.91 .317     .000
      [CN= 73.0: N= 3.00: Tp=  .11]
R0001:C00075------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 06:INT-6           .70     .043 No_date    3:00
20.91 .317     .000
      [CN= 73.0: N= 3.00: Tp=  .05]
R0001:C00076------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 07:INT-3          4.90     .218 No_date    3:10
22.92 .347     .000
      [CN= 74.8: N= 3.00: Tp=  .39]
R0001:C00077------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 08:UNC-4          3.20     .039 No_date    3:08
5.86 .089     .000
      [CN= 34.4: N= 3.00: Tp=  .32]
#-----------------|-----------------------------------------------------------|
```

```
#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO OUTLET C--------------|
```

```
#-----------------|-----------------------------------------------------------|
```

```
R0001:C00078------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
```



```
 PRE_KCHU
mm-R.C.---DWFcms
    ADD HYD               1.0 05:EXT-5          5.20     .302 No_date    3:01
20.91  n/a     .000
                    +     1.0 06:INT-6           .70     .043 No_date    3:00
20.91  n/a     .000
                    +     1.0 07:INT-3          4.90     .218 No_date    3:10
22.92  n/a     .000
                    +     1.0 08:UNC-4          3.20     .039 No_date    3:08
5.86  n/a     .000
                 SUM=     1.0 03:OUTLET C      14.00     .575 No_date    3:01
18.18  n/a     .000
R0001:C00079------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 04:Ext-6          6.00     .244 No_date    3:10
20.91 .317     .000
      [CN= 73.0: N= 3.00: Tp=  .39]
#-----------------|-----------------------------------------------------------|
```

```
R0001:C00080------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 09:Ext-7          6.00     .319 No_date    3:02
20.91 .317     .000
      [CN= 73.0: N= 3.00: Tp=  .19]
#-----------------|-----------------------------------------------------------|
```

```
R0001:C00081------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 10:Ext-8         12.80     .571 No_date    3:11
23.25 .352     .000
      [CN= 75.2: N= 3.00: Tp=  .40]
#-----------------|-----------------------------------------------------------|
```

```
#-----------------|-----------------------------------------------------------|
```

```
#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE NE DITCH          |
```

```
#-----------------|-----------------------------------------------------------|
```

```
#-----------------|-----------------------------------------------------------|

R0001:C00082------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD              1.0 03:OUTLET C      14.00     .575 No_date    3:01
18.18  n/a     .000
                   +     1.0 04:Ext-6          6.00     .244 No_date    3:10
20.91  n/a     .000
                   +     1.0 09:Ext-7          6.00     .319 No_date    3:02
20.91  n/a     .000
                   +     1.0 10:Ext-8         12.80     .571 No_date    3:11
23.25  n/a     .000
                SUM=     1.0 06:NE_DITCH      38.80    1.635 No_date    3:03
20.70  n/a     .000
R0001:C00083------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD         1.0 04:Ext-9          7.00     .362 No_date    3:07
24.93 .378     .000
      [CN= 76.8: N= 3.00: Tp=  .34]
#-----------------|-----------------------------------------------------------|

#-----------------|  THE ADD HYD BELOW MODELS Subwatershed 21A Outflow--------|

#-----------------|-----------------------------------------------------------|

#-----------------|-----------------------------------------------------------|

R0001:C00084------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD              1.0 06:NE_DITCH      38.80    1.635 No_date    3:03
20.70  n/a     .000
                   +     1.0 04:Ext-9          7.00     .362 No_date    3:07
24.93  n/a     .000
                SUM=     1.0 05:21A           45.80    1.986 No_date    3:03
21.34  n/a     .000
R0001:C00085------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
```



```
mm-R.C.---DWFcms
    CALIB NASHYD         1.0 04:Ext-10A       27.90     .884 No_date    3:03
12.78 .194     .000
      [CN= 56.0: N= 3.00: Tp=  .20]
#-----------------|-----------------------------------------------------------|

R0001:C00086------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD         1.0 03:Ext-11         3.90     .240 No_date    3:00
22.09 .335     .000
      [CN= 72.9: N= 3.00: Tp=  .08]
#-----------------|-----------------------------------------------------------|

R0001:C00087------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD         1.0 06:Ext-12         5.20     .280 No_date    3:02
20.91 .317     .000
      [CN= 73.0: N= 3.00: Tp=  .18]
#-----------------|-----------------------------------------------------------|

#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO EX. STORAGE AREA------|

#-----------------|-----------------------------------------------------------|

#-----------------|-----------------------------------------------------------|

R0001:C00088------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD              1.0 01:825mm         13.20     .756 No_date    3:00
21.34  n/a     .000
                   +     1.0 02:900mm         11.20     .574 No_date    3:00
21.52  n/a     .000
                   +     1.0 04:Ext-10A       27.90     .884 No_date    3:03
12.78  n/a     .000
                   +     1.0 03:Ext-11         3.90     .240 No_date    3:00
22.09  n/a     .000
```

```
                    +     1.0 06:Ext-12         5.20     .280 No_date    3:02
20.91  n/a     .000
                 SUM=     1.0 05:WET-STO       61.40    2.714 No_date    3:01
17.50  n/a     .000
R0001:C00089------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 05:WET-STO       61.40    2.714 No_date    3:01
17.50  n/a     .000
                out <=    1.0 04:22            61.40     .361 No_date    4:19
17.50  n/a     .000
           overflow <=    1.0 06:OVF             .00     .000 No_date    0:00
.00  n/a     .000
     {MxStoUsed=.6720E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=
0.hrs}
R0001:C00090------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 03:Ext-10B        4.90     .163 No_date    3:02
13.22 .200     .000
      [CN= 54.6: N= 3.00: Tp=  .17]
#-----------------|-----------------------------------------------------------|



#-----------------|  THE ADD HYD BELOW MODELS SUBWATERSHED 22 OUTFLOW --------|



#-----------------|-----------------------------------------------------------|



#-----------------|-----------------------------------------------------------|



R0001:C00091------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 03:Ext-10B        4.90     .163 No_date    3:02
13.22  n/a     .000
                    +     1.0 04:22            61.40     .361 No_date    4:19
17.50  n/a     .000
                    +     1.0 06:OVF             .00     .000 No_date    0:00
.00  n/a     .000
                 SUM=     1.0 05:22            66.30     .460 No_date    3:04
17.18  n/a     .000
#-----------------|-----------------------------------------------------------|
```



```
#-----------------|----------25 YEAR KCHU-------------------------------------|



#-----------------|-----------------------------------------------------------|



R0001:C00092--------------------------------------------------------------------
----------------
     READ STORM
      Filename = 25yr.stm

      Comment  = 25-Year 6 hr Kifer Chu Chicago Storm Event

      [SDT=60.00:SDUR=   6.00:PTOT=  77.90]
#-----------------|-----------------------------------------------------------|



#-----------------|-----------PRE-DEVELOPMENT---------------------------------|



#-----------------|-----------------------------------------------------------|



#-----------------|-----------------OUTLET A---------------------------------|



#-----------------|-----------------------------------------------------------|



R0001:C00093------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 05:EXT-1          3.50     .258 No_date    3:01
28.49 .366     .000
      [CN= 73.0: N= 3.00: Tp=  .13]
R0001:C00094------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 02:EXT-2          4.10     .305 No_date    3:01
28.49 .366     .000
      [CN= 73.0: N= 3.00: Tp=  .12]
R0001:C00095------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
```

```
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 03:EXT-3          2.20     .162 No_date    3:01
28.49 .366     .000
      [CN= 73.0: N= 3.00: Tp=  .13]
R0001:C00096------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 04:INT-4          2.00     .158 No_date    3:00
28.49 .366     .000
      [CN= 73.0: N= 3.00: Tp=  .05]
R0001:C00097------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 06:INT-1          1.40     .102 No_date    3:04
33.31 .428     .000
      [CN= 76.8: N= 3.00: Tp=  .27]
#------------------|-----------------------------------------------------------|

#------------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 800mm CULVERT-----|

#------------------|-----------------------------------------------------------|

#------------------|-----------------------------------------------------------|

R0001:C00098------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 05:EXT-1          3.50     .258 No_date    3:01
28.49  n/a     .000
                    +     1.0 02:EXT-2          4.10     .305 No_date    3:01
28.49  n/a     .000
                    +     1.0 03:EXT-3          2.20     .162 No_date    3:01
28.49  n/a     .000
                    +     1.0 04:INT-4          2.00     .158 No_date    3:00
28.49  n/a     .000
                    +     1.0 06:INT-1          1.40     .102 No_date    3:04
33.31  n/a     .000
                 SUM=     1.0 01:825mm         13.20     .980 No_date    3:00
29.00  n/a     .000
#------------------|-----------------------------------------------------------|
```



```
#------------------|------------------OUTLET B---------------------------------|

R0001:C00099------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 04:EXT-4          2.60     .192 No_date    3:01
28.49 .366     .000
      [CN= 73.0: N= 3.00: Tp=  .13]
R0001:C00100------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 05:INT-5           .90     .071 No_date    3:00
28.49 .366     .000
      [CN= 73.0: N= 3.00: Tp=  .05]
R0001:C00101------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 06:INT-2          5.80     .373 No_date    3:06
30.60 .393     .000
      [CN= 74.7: N= 3.00: Tp=  .31]
R0001:C00102------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 07:UNC-3          1.90     .137 No_date    3:00
26.16 .336     .000
      [CN= 69.7: N= 3.00: Tp=  .06]
#------------------|-----------------------------------------------------------|

#------------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 900mm CULVERT     |

#------------------|-----------------------------------------------------------|

#------------------|-----------------------------------------------------------|

R0001:C00103------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 04:EXT-4          2.60     .192 No_date    3:01
28.49  n/a     .000
                    +     1.0 05:INT-5           .90     .071 No_date    3:00
28.49  n/a     .000
                    +     1.0 06:INT-2          5.80     .373 No_date    3:06
30.60  n/a     .000
```

```
 PRE_KCHU
                   +     1.0 07:UNC-3          1.90     .137 No_date    3:00
26.16  n/a     .000
                SUM=     1.0 02:900mm         11.20     .751 No_date    3:00
29.19  n/a     .000
#-----------------|------------------------------------------------------------|



#-----------------|-----------------OUTLET C----------------------------------|



R0001:C00104------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 05:EXT-5          5.20     .390 No_date    3:01
28.49 .366     .000
      [CN= 73.0: N= 3.00: Tp=  .11]
R0001:C00105------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 06:INT-6           .70     .055 No_date    3:00
28.49 .366     .000
      [CN= 73.0: N= 3.00: Tp=  .05]
R0001:C00106------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 07:INT-3          4.90     .287 No_date    3:10
30.88 .396     .000
      [CN= 74.8: N= 3.00: Tp=  .39]
R0001:C00107------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 08:UNC-4          3.20     .054 No_date    3:08
8.42 .108     .000
      [CN= 34.4: N= 3.00: Tp=  .32]
#-----------------|------------------------------------------------------------|



#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO OUTLET C--------------|



#-----------------|------------------------------------------------------------|



R0001:C00108------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 05:EXT-5          5.20     .390 No_date    3:01
28.49  n/a     .000
```



```
 PRE_KCHU
                   +     1.0 06:INT-6           .70     .055 No_date    3:00
28.49  n/a     .000
                   +     1.0 07:INT-3          4.90     .287 No_date    3:10
30.88  n/a     .000
                   +     1.0 08:UNC-4          3.20     .054 No_date    3:08
8.42  n/a     .000
                SUM=     1.0 03:OUTLET C      14.00     .755 No_date    3:01
24.74  n/a     .000
R0001:C00109------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 04:Ext-6          6.00     .325 No_date    3:10
28.49 .366     .000
      [CN= 73.0: N= 3.00: Tp=  .39]
#-----------------|------------------------------------------------------------|



R0001:C00110------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 09:Ext-7          6.00     .416 No_date    3:02
28.49 .366     .000
      [CN= 73.0: N= 3.00: Tp=  .19]
#-----------------|------------------------------------------------------------|



R0001:C00111------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 10:Ext-8         12.80     .751 No_date    3:10
31.28 .402     .000
      [CN= 75.2: N= 3.00: Tp=  .40]
#-----------------|------------------------------------------------------------|



#-----------------|------------------------------------------------------------|



#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE NE DITCH          |



#-----------------|------------------------------------------------------------|



#-----------------|------------------------------------------------------------|
```

```
R0001:C00112------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD              1.0 03:OUTLET C      14.00     .755 No_date    3:01
24.74  n/a     .000
                    +     1.0 04:Ext-6          6.00     .325 No_date    3:10
28.49  n/a     .000
                    +     1.0 09:Ext-7          6.00     .416 No_date    3:02
28.49  n/a     .000
                    +     1.0 10:Ext-8         12.80     .751 No_date    3:10
31.28  n/a     .000
                 SUM=     1.0 06:NE_DITCH      38.80    2.160 No_date    3:03
28.05  n/a     .000
R0001:C00113------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD         1.0 04:Ext-9          7.00     .471 No_date    3:07
33.28 .427     .000
      [CN= 76.8: N= 3.00: Tp=  .34]
#-----------------|-----------------------------------------------------------|


#-----------------|  THE ADD HYD BELOW MODELS Subwatershed 21A Outflow--------|


#-----------------|-----------------------------------------------------------|


#-----------------|-----------------------------------------------------------|


R0001:C00114------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD              1.0 06:NE_DITCH      38.80    2.160 No_date    3:03
28.05  n/a     .000
                    +     1.0 04:Ext-9          7.00     .471 No_date    3:07
33.28  n/a     .000
                 SUM=     1.0 05:21A           45.80    2.619 No_date    3:03
28.85  n/a     .000
R0001:C00115------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD         1.0 04:Ext-10A       27.90    1.186 No_date    3:03
17.82 .229     .000
```



```
      [CN= 56.0: N= 3.00: Tp=  .20]
#-----------------|-----------------------------------------------------------|


R0001:C00116------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD         1.0 03:Ext-11         3.90     .307 No_date    3:00
29.76 .382     .000
      [CN= 72.9: N= 3.00: Tp=  .08]
#-----------------|-----------------------------------------------------------|


R0001:C00117------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD         1.0 06:Ext-12         5.20     .365 No_date    3:02
28.49 .366     .000
      [CN= 73.0: N= 3.00: Tp=  .18]
#-----------------|-----------------------------------------------------------|


#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO EX. STORAGE AREA------|


#-----------------|-----------------------------------------------------------|


#-----------------|-----------------------------------------------------------|


R0001:C00118------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD              1.0 01:825mm         13.20     .980 No_date    3:00
29.00  n/a     .000
                    +     1.0 02:900mm         11.20     .751 No_date    3:00
29.19  n/a     .000
                    +     1.0 04:Ext-10A       27.90    1.186 No_date    3:03
17.82  n/a     .000
                    +     1.0 03:Ext-11         3.90     .307 No_date    3:00
29.76  n/a     .000
                    +     1.0 06:Ext-12         5.20     .365 No_date    3:02
28.49  n/a     .000
                 SUM=     1.0 05:WET-STO       61.40    3.563 No_date    3:01
```

```
23.96  n/a     .000
R0001:C00119------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 05:WET-STO       61.40    3.563 No_date    3:01
23.96  n/a     .000
                out <=    1.0 04:22            61.40     .430 No_date    4:35
23.96  n/a     .000
           overflow <=    1.0 06:OVF             .00     .000 No_date    0:00
.00  n/a     .000
     {MxStoUsed=.9622E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=
0.hrs}
R0001:C00120------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 03:Ext-10B        4.90     .216 No_date    3:02
18.19 .234     .000
      [CN= 54.6: N= 3.00: Tp=  .17]
#------------------|----------------------------------------------------------|

#------------------|  THE ADD HYD BELOW MODELS SUBWATERSHED 22 OUTFLOW --------|

#------------------|----------------------------------------------------------|

#------------------|----------------------------------------------------------|

R0001:C00121------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 03:Ext-10B        4.90     .216 No_date    3:02
18.19  n/a     .000
                    +     1.0 04:22            61.40     .430 No_date    4:35
23.96  n/a     .000
                    +     1.0 06:OVF             .00     .000 No_date    0:00
.00  n/a     .000
                 SUM=     1.0 05:22            66.30     .563 No_date    3:04
23.53  n/a     .000
#------------------|----------------------------------------------------------|

#------------------|----------50YEAR KCHU-------------------------------------|
```



```
#------------------|----------------------------------------------------------|

R0001:C00122-----------------------------------------------------------------------
----------------
     READ STORM
      Filename = 50yr.stm

      Comment  = 50-Year 6 hr Kifer Chu Chicago Storm Event

      [SDT=60.00:SDUR=   6.00:PTOT=  83.90]
#------------------|----------------------------------------------------------|

#------------------|-----------PRE-DEVELOPMENT--------------------------------|

#------------------|----------------------------------------------------------|

#------------------|-----------------OUTLET A---------------------------------|

#------------------|----------------------------------------------------------|

R0001:C00123------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 05:EXT-1          3.50     .290 No_date    3:01
32.54 .388     .000
      [CN= 73.0: N= 3.00: Tp=  .13]
R0001:C00124------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 02:EXT-2          4.10     .343 No_date    3:01
32.54 .388     .000
      [CN= 73.0: N= 3.00: Tp=  .12]
R0001:C00125------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 03:EXT-3          2.20     .182 No_date    3:01
32.54 .388     .000
```

```
      [CN= 73.0: N= 3.00: Tp=  .13]
R0001:C00126------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 04:INT-4          2.00     .177 No_date    3:00
32.54 .388     .000
      [CN= 73.0: N= 3.00: Tp=  .05]
R0001:C00127------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 06:INT-1          1.40     .115 No_date    3:04
37.73 .450     .000
      [CN= 76.8: N= 3.00: Tp=  .27]
#-----------------|-----------------------------------------------------------|


#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 800mm CULVERT-----|


#-----------------|-----------------------------------------------------------|


#-----------------|-----------------------------------------------------------|


R0001:C00128------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 05:EXT-1          3.50     .290 No_date    3:01
32.54  n/a     .000
                    +     1.0 02:EXT-2          4.10     .343 No_date    3:01
32.54  n/a     .000
                    +     1.0 03:EXT-3          2.20     .182 No_date    3:01
32.54  n/a     .000
                    +     1.0 04:INT-4          2.00     .177 No_date    3:00
32.54  n/a     .000
                    +     1.0 06:INT-1          1.40     .115 No_date    3:04
37.73  n/a     .000
                 SUM=     1.0 01:825mm         13.20    1.100 No_date    3:00
33.09  n/a     .000
#-----------------|-----------------------------------------------------------|


#-----------------|-----------------OUTLET B---------------------------------|
```



```
R0001:C00129------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 04:EXT-4          2.60     .215 No_date    3:01
32.54 .388     .000
      [CN= 73.0: N= 3.00: Tp=  .13]
R0001:C00130------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 05:INT-5           .90     .080 No_date    3:00
32.54 .388     .000
      [CN= 73.0: N= 3.00: Tp=  .05]
R0001:C00131------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 06:INT-2          5.80     .421 No_date    3:06
34.82 .415     .000
      [CN= 74.7: N= 3.00: Tp=  .31]
R0001:C00132------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 07:UNC-3          1.90     .154 No_date    3:00
29.94 .357     .000
      [CN= 69.7: N= 3.00: Tp=  .06]
#-----------------|-----------------------------------------------------------|


#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 900mm CULVERT     |


#-----------------|-----------------------------------------------------------|


#-----------------|-----------------------------------------------------------|


R0001:C00133------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 04:EXT-4          2.60     .215 No_date    3:01
32.54  n/a     .000
                    +     1.0 05:INT-5           .90     .080 No_date    3:00
32.54  n/a     .000
                    +     1.0 06:INT-2          5.80     .421 No_date    3:06
34.82  n/a     .000
                    +     1.0 07:UNC-3          1.90     .154 No_date    3:00
29.94  n/a     .000
                 SUM=     1.0 02:900mm         11.20     .847 No_date    3:00
```

```
 PRE_KCHU
33.28  n/a     .000
#-----------------|-----------------------------------------------------------|


#-----------------|-----------------OUTLET C---------------------------------|


R0001:C00134------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 05:EXT-5          5.20     .438 No_date    3:01
32.54 .388     .000
      [CN= 73.0: N= 3.00: Tp=  .11]
R0001:C00135------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 06:INT-6           .70     .062 No_date    3:00
32.54 .388     .000
      [CN= 73.0: N= 3.00: Tp=  .05]
R0001:C00136------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 07:INT-3          4.90     .325 No_date    3:09
35.11 .418     .000
      [CN= 74.8: N= 3.00: Tp=  .39]
R0001:C00137------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 08:UNC-4          3.20     .063 No_date    3:08
9.85 .117     .000
      [CN= 34.4: N= 3.00: Tp=  .32]
#-----------------|-----------------------------------------------------------|


#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO OUTLET C--------------|


#-----------------|-----------------------------------------------------------|


R0001:C00138------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 05:EXT-5          5.20     .438 No_date    3:01
32.54  n/a     .000
                    +     1.0 06:INT-6           .70     .062 No_date    3:00
32.54  n/a     .000
                    +     1.0 07:INT-3          4.90     .325 No_date    3:09
```


```
 PRE_KCHU
35.11  n/a     .000
                    +     1.0 08:UNC-4          3.20     .063 No_date    3:08
9.85  n/a     .000
                 SUM=     1.0 03:OUTLET C      14.00     .853 No_date    3:01
28.25  n/a     .000
R0001:C00139------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 04:Ext-6          6.00     .369 No_date    3:10
32.54 .388     .000
      [CN= 73.0: N= 3.00: Tp=  .39]
#-----------------|-----------------------------------------------------------|


R0001:C00140------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 09:Ext-7          6.00     .469 No_date    3:02
32.54 .388     .000
      [CN= 73.0: N= 3.00: Tp=  .19]
#-----------------|-----------------------------------------------------------|


R0001:C00141------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 10:Ext-8         12.80     .848 No_date    3:10
35.55 .424     .000
      [CN= 75.2: N= 3.00: Tp=  .40]
#-----------------|-----------------------------------------------------------|


#-----------------|-----------------------------------------------------------|


#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE NE DITCH          |


#-----------------|-----------------------------------------------------------|


#-----------------|-----------------------------------------------------------|
```

```
R0001:C00142------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD              1.0 03:OUTLET C      14.00     .853 No_date    3:01
28.25  n/a     .000
                    +     1.0 04:Ext-6          6.00     .369 No_date    3:10
32.54  n/a     .000
                    +     1.0 09:Ext-7          6.00     .469 No_date    3:02
32.54  n/a     .000
                    +     1.0 10:Ext-8         12.80     .848 No_date    3:10
35.55  n/a     .000
                 SUM=     1.0 06:NE_DITCH      38.80    2.446 No_date    3:02
31.98  n/a     .000
R0001:C00143------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD         1.0 04:Ext-9          7.00     .529 No_date    3:07
37.70 .449     .000
      [CN= 76.8: N= 3.00: Tp=  .34]
#-----------------|-----------------------------------------------------------|

#-----------------|  THE ADD HYD BELOW MODELS Subwatershed 21A Outflow--------|

#-----------------|-----------------------------------------------------------|

#-----------------|-----------------------------------------------------------|

R0001:C00144------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD              1.0 06:NE_DITCH      38.80    2.446 No_date    3:02
31.98  n/a     .000
                    +     1.0 04:Ext-9          7.00     .529 No_date    3:07
37.70  n/a     .000
                 SUM=     1.0 05:21A           45.80    2.963 No_date    3:03
32.86  n/a     .000
R0001:C00145------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD         1.0 04:Ext-10A       27.90    1.355 No_date    3:03
20.58 .245     .000
      [CN= 56.0: N= 3.00: Tp=  .20]
#-----------------|-----------------------------------------------------------|
```



```
R0001:C00146------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD         1.0 03:Ext-11         3.90     .343 No_date    3:00
33.85 .403     .000
      [CN= 72.9: N= 3.00: Tp=  .08]
#-----------------|-----------------------------------------------------------|

R0001:C00147------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD         1.0 06:Ext-12         5.20     .411 No_date    3:02
32.54 .388     .000
      [CN= 73.0: N= 3.00: Tp=  .18]
#-----------------|-----------------------------------------------------------|

#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO EX. STORAGE AREA------|

#-----------------|-----------------------------------------------------------|

#-----------------|-----------------------------------------------------------|

R0001:C00148------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD              1.0 01:825mm         13.20    1.100 No_date    3:00
33.09  n/a     .000
                    +     1.0 02:900mm         11.20     .847 No_date    3:00
33.28  n/a     .000
                    +     1.0 04:Ext-10A       27.90    1.355 No_date    3:03
20.58  n/a     .000
                    +     1.0 03:Ext-11         3.90     .343 No_date    3:00
33.85  n/a     .000
                    +     1.0 06:Ext-12         5.20     .411 No_date    3:02
32.54  n/a     .000
                 SUM=     1.0 05:WET-STO       61.40    4.028 No_date    3:01
27.44  n/a     .000
R0001:C00149------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
```

```
    ROUTE RESERVOIR ->    1.0 05:WET-STO       61.40    4.028 No_date    3:01
27.44  n/a     .000
                out <=    1.0 04:22            61.40     .464 No_date    5:03
27.44  n/a     .000
           overflow <=    1.0 06:OVF             .00     .000 No_date    0:00
.00  n/a     .000
     {MxStoUsed=.1121E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=
0.hrs}
R0001:C00150------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 03:Ext-10B        4.90     .246 No_date    3:02
20.92 .249     .000
      [CN= 54.6: N= 3.00: Tp=  .17]
#-----------------|------------------------------------------------------------|

#-----------------|  THE ADD HYD BELOW MODELS SUBWATERSHED 22 OUTFLOW --------|

#-----------------|------------------------------------------------------------|

#-----------------|------------------------------------------------------------|

R0001:C00151------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 03:Ext-10B        4.90     .246 No_date    3:02
20.92  n/a     .000
                   +      1.0 04:22            61.40     .464 No_date    5:03
27.44  n/a     .000
                   +      1.0 06:OVF             .00     .000 No_date    0:00
.00  n/a     .000
                SUM=      1.0 05:22            66.30     .617 No_date    3:04
26.96  n/a     .000
#-----------------|------------------------------------------------------------|

#-----------------|----------100 YEAR KCHU-----------------------------------|

#-----------------|------------------------------------------------------------|
```



```
R0001:C00152-------------------------------------------------------------------
----------------
     READ STORM
      Filename = 100yr.stm

      Comment  = 100-Year 6 hr Kifer Chu Chicago Storm Event

      [SDT=60.00:SDUR=   6.00:PTOT=  96.00]
#-----------------|------------------------------------------------------------|

#-----------------|-----------PRE-DEVELOPMENT--------------------------------|

#-----------------|------------------------------------------------------------|

#-----------------|-----------------OUTLET A---------------------------------|

#-----------------|------------------------------------------------------------|

R0001:C00153------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 05:EXT-1          3.50     .359 No_date    3:01
41.10 .428     .000
      [CN= 73.0: N= 3.00: Tp=  .13]
R0001:C00154------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 02:EXT-2          4.10     .423 No_date    3:01
41.10 .428     .000
      [CN= 73.0: N= 3.00: Tp=  .12]
R0001:C00155------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 03:EXT-3          2.20     .225 No_date    3:01
41.10 .428     .000
      [CN= 73.0: N= 3.00: Tp=  .13]
R0001:C00156------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
```

```
 PRE_KCHU
    CALIB NASHYD          1.0 04:INT-4          2.00     .218 No_date    3:00
41.10 .428     .000
      [CN= 73.0: N= 3.00: Tp=  .05]
R0001:C00157------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 06:INT-1          1.40     .142 No_date    3:04
46.99 .490     .000
      [CN= 76.8: N= 3.00: Tp=  .27]
#-----------------|---------------------------------------------------------|

#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 800mm CULVERT-----|

#-----------------|---------------------------------------------------------|

#-----------------|---------------------------------------------------------|

R0001:C00158------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 05:EXT-1          3.50     .359 No_date    3:01
41.10  n/a     .000
                    +     1.0 02:EXT-2          4.10     .423 No_date    3:01
41.10  n/a     .000
                    +     1.0 03:EXT-3          2.20     .225 No_date    3:01
41.10  n/a     .000
                    +     1.0 04:INT-4          2.00     .218 No_date    3:00
41.10  n/a     .000
                    +     1.0 06:INT-1          1.40     .142 No_date    3:04
46.99  n/a     .000
                 SUM=     1.0 01:825mm         13.20    1.360 No_date    3:00
41.73  n/a     .000
#-----------------|---------------------------------------------------------|

#-----------------|-----------------OUTLET B---------------------------------|

R0001:C00159------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
```



```
 PRE_KCHU
    CALIB NASHYD          1.0 04:EXT-4          2.60     .266 No_date    3:01
41.10 .428     .000
      [CN= 73.0: N= 3.00: Tp=  .13]
R0001:C00160------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 05:INT-5           .90     .098 No_date    3:00
41.10 .428     .000
      [CN= 73.0: N= 3.00: Tp=  .05]
R0001:C00161------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 06:INT-2          5.80     .524 No_date    3:06
43.70 .455     .000
      [CN= 74.7: N= 3.00: Tp=  .31]
R0001:C00162------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 07:UNC-3          1.90     .191 No_date    3:00
37.99 .396     .000
      [CN= 69.7: N= 3.00: Tp=  .06]
#-----------------|---------------------------------------------------------|

#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 900mm CULVERT     |

#-----------------|---------------------------------------------------------|

#-----------------|---------------------------------------------------------|

R0001:C00163------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 04:EXT-4          2.60     .266 No_date    3:01
41.10  n/a     .000
                    +     1.0 05:INT-5           .90     .098 No_date    3:00
41.10  n/a     .000
                    +     1.0 06:INT-2          5.80     .524 No_date    3:06
43.70  n/a     .000
                    +     1.0 07:UNC-3          1.90     .191 No_date    3:00
37.99  n/a     .000
                 SUM=     1.0 02:900mm         11.20    1.054 No_date    3:00
41.92  n/a     .000
#-----------------|---------------------------------------------------------|
```

```
#-----------------|-----------------OUTLET C---------------------------------|


R0001:C00164------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 05:EXT-5          5.20     .540 No_date    3:00
41.10 .428     .000
      [CN= 73.0: N= 3.00: Tp=  .11]
R0001:C00165------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 06:INT-6           .70     .076 No_date    3:00
41.10 .428     .000
      [CN= 73.0: N= 3.00: Tp=  .05]
R0001:C00166------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 07:INT-3          4.90     .406 No_date    3:09
44.02 .459     .000
      [CN= 74.8: N= 3.00: Tp=  .39]
R0001:C00167------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 08:UNC-4          3.20     .083 No_date    3:08
13.05 .136     .000
      [CN= 34.4: N= 3.00: Tp=  .32]
#-----------------|-----------------------------------------------------------|


#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO OUTLET C--------------|


#-----------------|-----------------------------------------------------------|


R0001:C00168------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 05:EXT-5          5.20     .540 No_date    3:00
41.10  n/a     .000
                    +     1.0 06:INT-6           .70     .076 No_date    3:00
41.10  n/a     .000
                    +     1.0 07:INT-3          4.90     .406 No_date    3:09
44.02  n/a     .000
                    +     1.0 08:UNC-4          3.20     .083 No_date    3:08
13.05  n/a     .000
```



```
                 SUM=     1.0 03:OUTLET C      14.00    1.066 No_date    3:01
35.71  n/a     .000
R0001:C00169------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 04:Ext-6          6.00     .464 No_date    3:09
41.10 .428     .000
      [CN= 73.0: N= 3.00: Tp=  .39]
#-----------------|-----------------------------------------------------------|


R0001:C00170------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 09:Ext-7          6.00     .583 No_date    3:02
41.10 .428     .000
      [CN= 73.0: N= 3.00: Tp=  .19]
#-----------------|-----------------------------------------------------------|


R0001:C00171------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 10:Ext-8         12.80    1.059 No_date    3:09
44.52 .464     .000
      [CN= 75.2: N= 3.00: Tp=  .40]
#-----------------|-----------------------------------------------------------|


#-----------------|-----------------------------------------------------------|


#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE NE DITCH          |


#-----------------|-----------------------------------------------------------|


#-----------------|-----------------------------------------------------------|


R0001:C00172------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 03:OUTLET C      14.00    1.066 No_date    3:01
```

```
 PRE_KCHU
35.71  n/a     .000
                   +     1.0 04:Ext-6          6.00     .464 No_date    3:09
41.10  n/a     .000
                   +     1.0 09:Ext-7          6.00     .583 No_date    3:02
41.10  n/a     .000
                   +     1.0 10:Ext-8         12.80    1.059 No_date    3:09
44.52  n/a     .000
                SUM=     1.0 06:NE_DITCH      38.80    3.069 No_date    3:02
40.28  n/a     .000
R0001:C00173------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD         1.0 04:Ext-9          7.00     .655 No_date    3:07
46.96 .489     .000
      [CN= 76.8: N= 3.00: Tp=  .34]
#-----------------|-----------------------------------------------------------|

#-----------------|  THE ADD HYD BELOW MODELS Subwatershed 21A Outflow--------|

#-----------------|-----------------------------------------------------------|

#-----------------|-----------------------------------------------------------|

R0001:C00174------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD              1.0 06:NE_DITCH      38.80    3.069 No_date    3:02
40.28  n/a     .000
                   +     1.0 04:Ext-9          7.00     .655 No_date    3:07
46.96  n/a     .000
                SUM=     1.0 05:21A           45.80    3.709 No_date    3:03
41.31  n/a     .000
R0001:C00175------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD         1.0 04:Ext-10A       27.90    1.730 No_date    3:03
26.57 .277     .000
      [CN= 56.0: N= 3.00: Tp=  .20]
#-----------------|-----------------------------------------------------------|

R0001:C00176------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
```



```
 PRE_KCHU
mm-R.C.---DWFcms
    CALIB NASHYD         1.0 03:Ext-11         3.90     .421 No_date    3:00
42.48 .443     .000
      [CN= 72.9: N= 3.00: Tp=  .08]
#-----------------|-----------------------------------------------------------|

R0001:C00177------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD         1.0 06:Ext-12         5.20     .510 No_date    3:02
41.10 .428     .000
      [CN= 73.0: N= 3.00: Tp=  .18]
#-----------------|-----------------------------------------------------------|

#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO EX. STORAGE AREA------|

#-----------------|-----------------------------------------------------------|

#-----------------|-----------------------------------------------------------|

R0001:C00178------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD              1.0 01:825mm         13.20    1.360 No_date    3:00
41.73  n/a     .000
                   +     1.0 02:900mm         11.20    1.054 No_date    3:00
41.92  n/a     .000
                   +     1.0 04:Ext-10A       27.90    1.730 No_date    3:03
26.57  n/a     .000
                   +     1.0 03:Ext-11         3.90     .421 No_date    3:00
42.48  n/a     .000
                   +     1.0 06:Ext-12         5.20     .510 No_date    3:02
41.10  n/a     .000
                SUM=     1.0 05:WET-STO       61.40    5.040 No_date    3:01
34.87  n/a     .000
R0001:C00179------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ROUTE RESERVOIR ->   1.0 05:WET-STO       61.40    5.040 No_date    3:01
34.87  n/a     .000
                out <=   1.0 04:22            61.40     .506 No_date    5:11
```

```
34.87  n/a     .000
           overflow <=    1.0 06:OVF             .00     .000 No_date    0:00
.00  n/a     .000
     {MxStoUsed=.1501E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=
0.hrs}
R0001:C00180------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 03:Ext-10B        4.90     .312 No_date    3:02
26.82 .279     .000
      [CN= 54.6: N= 3.00: Tp=  .17]
#-----------------|----------------------------------------------------------|



#-----------------|  THE ADD HYD BELOW MODELS SUBWATERSHED 22 OUTFLOW --------|



#-----------------|----------------------------------------------------------|



#-----------------|----------------------------------------------------------|



R0001:C00181------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 03:Ext-10B        4.90     .312 No_date    3:02
26.82  n/a     .000
                   +     1.0 04:22           61.40     .506 No_date    5:11
34.87  n/a     .000
                   +     1.0 06:OVF             .00     .000 No_date    0:00
.00  n/a     .000
                SUM=     1.0 05:22           66.30     .738 No_date    3:04
34.27  n/a     .000
R0001:C00182-----------------------------------------------------------------------
----------------
    FINISH
-----------------------------------------------------------------------------------
----------------
***********************************************************************************
****************
     WARNINGS / ERRORS / NOTES
     -------------------------
   Simulation ended on 2021-06-30     at 12:16:42
===================================================================================
================
```

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

 SSSSS   W   W   M   M   H   H   Y   Y   M   M    OOO         222     000    11
77777 =========
 S       W W W   MM MM   H   H    Y Y    MM MM   O   O          2    0   0   11
7   7
 SSSSS   W W W   M M M   HHHHH     Y     M M M   O   O          2    0   0   11
   7 Ver4.05.0
     S    W W    M   M   H   H     Y     M   M   O   O        222    0   0   11
  7  APR 2017
 SSSSS    W W    M   M   H   H     Y     M   M    OOO        2       0   0   11
 7   =========
                                                             2       0   0   11
7    # 3737016
      StormWater Management HYdrologic Model                  222     000    11
7    =========

**********************************************************************************
***************
 *************************************** SWMHYMO Ver4.05.0
***************************************
 ******************  A single event and continuous hydrologic simulation model
*******************
 ******************     based on the principles of HYMO and its successors
*******************
 ******************                 OTTHYMO-83 and OTTHYMO-89.
*******************

**********************************************************************************
***************
 ****************** Distributed by:  J.F. Sabourin and Associates Inc.
*******************
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*******************
 ******************                  Gatineau, Quebec: (819) 243-6858
*******************
 ******************                  E-Mail: swmhymo@jfsa.com
*******************

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

++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
+++++++++++++++
```



```
 +++++++++++++++++ Licensed user: C.F. Crozier & Associates Inc.
++++++++++++++++++
 +++++++++++++++++               Collingwood          SERIAL#:3737016
++++++++++++++++++

++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
+++++++++++++++

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

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

 *******************************   S U M M A R Y   O U T P U T
*********************************

**********************************************************************************
***************
 *                RUN DATE: 2021-06-30     TIME: 12:17:49     RUN COUNTER: 000004
             *

**********************************************************************************
***************
 * Input   file: C:\SWMHYMO\Projects\119-2528 Alta Phase
II\2021.06.30\Craigleith_SCS12\PRE_Craigl*
 *              eith_SCS12.Dat
             *
 * Output  file: C:\SWMHYMO\Projects\119-2528 Alta Phase
II\2021.06.30\Craigleith_SCS12\PRE_Craigl*
 *              eith_SCS12.out
             *
 * Summary file: C:\SWMHYMO\Projects\119-2528 Alta Phase
II\2021.06.30\Craigleith_SCS12\PRE_Craigl*
 *              eith_SCS12.sum
             *
 * User comments:
             *
```

```
 PRE_Craigleith_SCS12
 *
1:________________________________________________________________________________
____________*
 *
2:________________________________________________________________________________
____________*
 *
3:________________________________________________________________________________
____________*

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


#*******************************************************************************


#  Project Name: [ALTA PHASE II]    Project Number: [119-2528]


#  Date        : 2021.06.30


#  Modified    : 2021.06.30


#  Modeller    : [Z. Holland]


#  Company     : C.F. Crozier & Associates Inc.


#  License #   : 3737016


#*******************************************************************************


 RUN#:COMMAND#
R0001:C00001----------------------------------------------------------------------
```



```
 PRE_Craigleith_SCS12
----------------
     START
      [TZERO =    .00 hrs on        0]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   0 ]
      [NRUN  = 0001 ]
#-----------------|-----------------------------------------------------------|


#-----------------|----------2YR SCS (12HR)-----------------------------------|


#-----------------|-----------------------------------------------------------|


R0001:C00002----------------------------------------------------------------------
----------------
     MASS STORM
      Filename = C:\SWMHYMO\Projects\119-2528 Alta Phase
II\2021.06.30\Craigleith_SC
      Comment  = 12 hour SCS II storm mass curve

      [SDT= 1.00:SDUR=  12.00:PTOT=  39.60]
#-----------------|-----------------------------------------------------------|


#-----------------|-----------PRE-DEVELOPMENT---------------------------------|


#-----------------|-----------------------------------------------------------|


#-----------------|-----------------OUTLET A----------------------------------|


#-----------------|-----------------------------------------------------------|


R0001:C00003------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
```

```
    CALIB NASHYD          1.0 05:EXT-1          3.50     .087 No_date    6:03
7.09 .179     .000
      [CN= 73.0: N= 3.00: Tp=  .13]
R0001:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 02:EXT-2          4.10     .107 No_date    6:03
7.09 .179     .000
      [CN= 73.0: N= 3.00: Tp=  .12]
R0001:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 03:EXT-3          2.20     .055 No_date    6:03
7.09 .179     .000
      [CN= 73.0: N= 3.00: Tp=  .13]
R0001:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 04:INT-4          2.00     .071 No_date    6:00
7.09 .179     .000
      [CN= 73.0: N= 3.00: Tp=  .05]
R0001:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 06:INT-1          1.40     .029 No_date    6:11
9.21 .233     .000
      [CN= 76.8: N= 3.00: Tp=  .27]
#-----------------|------------------------------------------------------------|


#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 800mm CULVERT-----|


#-----------------|------------------------------------------------------------|


#-----------------|------------------------------------------------------------|


R0001:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 05:EXT-1          3.50     .087 No_date    6:03
7.09  n/a     .000
                    +     1.0 02:EXT-2          4.10     .107 No_date    6:03
7.09  n/a     .000
                    +     1.0 03:EXT-3          2.20     .055 No_date    6:03
7.09  n/a     .000
                    +     1.0 04:INT-4          2.00     .071 No_date    6:00
```



```
7.09  n/a     .000
                    +     1.0 06:INT-1          1.40     .029 No_date    6:11
9.21  n/a     .000
                 SUM=     1.0 01:825mm         13.20     .327 No_date    6:02
7.32  n/a     .000
#-----------------|------------------------------------------------------------|


#-----------------|-----------------OUTLET B---------------------------------|


R0001:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 04:EXT-4          2.60     .065 No_date    6:03
7.09 .179     .000
      [CN= 73.0: N= 3.00: Tp=  .13]
R0001:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 05:INT-5           .90     .032 No_date    6:00
7.09 .179     .000
      [CN= 73.0: N= 3.00: Tp=  .05]
R0001:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 06:INT-2          5.80     .093 No_date    6:15
8.00 .202     .000
      [CN= 74.7: N= 3.00: Tp=  .31]
R0001:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 07:UNC-3          1.90     .058 No_date    6:00
6.44 .163     .000
      [CN= 69.7: N= 3.00: Tp=  .06]
#-----------------|------------------------------------------------------------|


#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 900mm CULVERT     |


#-----------------|------------------------------------------------------------|


#-----------------|------------------------------------------------------------|
```

```
R0001:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD              1.0 04:EXT-4          2.60     .065 No_date    6:03
7.09  n/a     .000
                    +    1.0 05:INT-5           .90     .032 No_date    6:00
7.09  n/a     .000
                    +    1.0 06:INT-2          5.80     .093 No_date    6:15
8.00  n/a     .000
                    +    1.0 07:UNC-3          1.90     .058 No_date    6:00
6.44  n/a     .000
                 SUM=    1.0 02:900mm         11.20     .203 No_date    6:02
7.45  n/a     .000
#-----------------|----------------------------------------------------------|


#-----------------|-----------------OUTLET C---------------------------------|


R0001:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD         1.0 05:EXT-5          5.20     .142 No_date    6:02
7.09 .179     .000
      [CN= 73.0: N= 3.00: Tp=  .11]
R0001:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD         1.0 06:INT-6           .70     .025 No_date    6:00
7.09 .179     .000
      [CN= 73.0: N= 3.00: Tp=  .05]
R0001:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD         1.0 07:INT-3          4.90     .068 No_date    6:21
8.16 .206     .000
      [CN= 74.8: N= 3.00: Tp=  .39]
R0001:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD         1.0 08:UNC-4          3.20     .010 No_date    6:16
1.74 .044     .000
      [CN= 34.4: N= 3.00: Tp=  .32]
#-----------------|----------------------------------------------------------|


#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO OUTLET C--------------|
```



```
#-----------------|----------------------------------------------------------|


R0001:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD              1.0 05:EXT-5          5.20     .142 No_date    6:02
7.09  n/a     .000
                    +    1.0 06:INT-6           .70     .025 No_date    6:00
7.09  n/a     .000
                    +    1.0 07:INT-3          4.90     .068 No_date    6:21
8.16  n/a     .000
                    +    1.0 08:UNC-4          3.20     .010 No_date    6:16
1.74  n/a     .000
                 SUM=    1.0 03:OUTLET C      14.00     .203 No_date    6:02
6.24  n/a     .000
R0001:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD         1.0 04:Ext-6          6.00     .071 No_date    6:22
7.09 .179     .000
      [CN= 73.0: N= 3.00: Tp=  .39]
#-----------------|----------------------------------------------------------|


R0001:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD         1.0 09:Ext-7          6.00     .118 No_date    6:07
7.09 .179     .000
      [CN= 73.0: N= 3.00: Tp=  .19]
#-----------------|----------------------------------------------------------|


R0001:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD         1.0 10:Ext-8         12.80     .179 No_date    6:22
8.31 .210     .000
      [CN= 75.2: N= 3.00: Tp=  .40]
#-----------------|----------------------------------------------------------|


#-----------------|----------------------------------------------------------|
```

```
#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE NE DITCH          |


#-----------------|----------------------------------------------------------|


#-----------------|----------------------------------------------------------|


R0001:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD              1.0 03:OUTLET C      14.00     .203 No_date    6:02
6.24  n/a     .000
                  +      1.0 04:Ext-6          6.00     .071 No_date    6:22
7.09  n/a     .000
                  +      1.0 09:Ext-7          6.00     .118 No_date    6:07
7.09  n/a     .000
                  +      1.0 10:Ext-8         12.80     .179 No_date    6:22
8.31  n/a     .000
                 SUM=    1.0 06:NE_DITCH      38.80     .480 No_date    6:09
7.19  n/a     .000
R0001:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD         1.0 04:Ext-9          7.00     .124 No_date    6:16
9.19 .232     .000
      [CN= 76.8: N= 3.00: Tp=  .34]
#-----------------|----------------------------------------------------------|


#-----------------|  THE ADD HYD BELOW MODELS Subwatershed 21A Outflow--------|


#-----------------|----------------------------------------------------------|


#-----------------|----------------------------------------------------------|


R0001:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD              1.0 06:NE_DITCH      38.80     .480 No_date    6:09
```



```
7.19  n/a     .000
                  +      1.0 04:Ext-9          7.00     .124 No_date    6:16
9.19  n/a     .000
                 SUM=    1.0 05:21A           45.80     .596 No_date    6:11
7.49  n/a     .000
R0001:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD         1.0 04:Ext-10A       27.90     .306 No_date    6:07
4.14 .105     .000
      [CN= 56.0: N= 3.00: Tp=  .20]
#-----------------|----------------------------------------------------------|


R0001:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD         1.0 03:Ext-11         3.90     .137 No_date    6:01
7.94 .201     .000
      [CN= 72.9: N= 3.00: Tp=  .08]
#-----------------|----------------------------------------------------------|


R0001:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD         1.0 06:Ext-12         5.20     .106 No_date    6:06
7.09 .179     .000
      [CN= 73.0: N= 3.00: Tp=  .18]
#-----------------|----------------------------------------------------------|


#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO EX. STORAGE AREA------|


#-----------------|----------------------------------------------------------|


#-----------------|----------------------------------------------------------|


R0001:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD              1.0 01:825mm         13.20     .327 No_date    6:02
7.32  n/a     .000
```

```
                   +     1.0 02:900mm         11.20     .203 No_date    6:02
7.45  n/a     .000
                   +     1.0 04:Ext-10A       27.90     .306 No_date    6:07
4.14  n/a     .000
                   +     1.0 03:Ext-11         3.90     .137 No_date    6:01
7.94  n/a     .000
                   +     1.0 06:Ext-12         5.20     .106 No_date    6:06
7.09  n/a     .000
                SUM=     1.0 05:WET-STO       61.40    1.020 No_date    6:03
5.92  n/a     .000
R0001:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 05:WET-STO       61.40    1.020 No_date    6:03
5.92  n/a     .000
                out <=    1.0 04:22            61.40     .200 No_date    6:53
5.92  n/a     .000
           overflow <=    1.0 06:OVF             .00     .000 No_date    0:00
.00  n/a     .000
     {MxStoUsed=.1379E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=
0.hrs}
R0001:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 03:Ext-10B        4.90     .068 No_date    6:05
4.57 .115     .000
      [CN= 54.6: N= 3.00: Tp=  .17]
#-----------------|-----------------------------------------------------------|

#-----------------|  THE ADD HYD BELOW MODELS SUBWATERSHED 22 OUTFLOW --------|

#-----------------|-----------------------------------------------------------|

#-----------------|-----------------------------------------------------------|

R0001:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 03:Ext-10B        4.90     .068 No_date    6:05
4.57  n/a     .000
                   +     1.0 04:22            61.40     .200 No_date    6:53
5.92  n/a     .000
                   +     1.0 06:OVF             .00     .000 No_date    0:00
```



```
.00  n/a     .000
                 SUM=     1.0 05:22            66.30     .238 No_date    6:08
5.82  n/a     .000
#-----------------|-----------------------------------------------------------|

#-----------------|----------5YR SCS (12HR)-----------------------------------|

#-----------------|-----------------------------------------------------------|

R0001:C00032----------------------------------------------------------------------
----------------
     MASS STORM
      Filename = C:\SWMHYMO\Projects\119-2528 Alta Phase
II\2021.06.30\Craigleith_SC
      Comment  = 12 hour SCS II storm mass curve

      [SDT= 1.00:SDUR=  12.00:PTOT=  55.20]
#-----------------|-----------------------------------------------------------|

#-----------------|-----------PRE-DEVELOPMENT--------------------------------|

#-----------------|-----------------------------------------------------------|

#-----------------|-----------------OUTLET A---------------------------------|

#-----------------|-----------------------------------------------------------|

R0001:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 05:EXT-1          3.50     .189 No_date    6:03
14.68 .266     .000
      [CN= 73.0: N= 3.00: Tp=  .13]
```

```
R0001:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 02:EXT-2          4.10     .230 No_date    6:03
14.68 .266     .000
      [CN= 73.0: N= 3.00: Tp=  .12]
R0001:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 03:EXT-3          2.20     .119 No_date    6:03
14.68 .266     .000
      [CN= 73.0: N= 3.00: Tp=  .13]
R0001:C00036------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 04:INT-4          2.00     .146 No_date    6:00
14.68 .266     .000
      [CN= 73.0: N= 3.00: Tp=  .05]
R0001:C00037------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 06:INT-1          1.40     .060 No_date    6:11
17.96 .325     .000
      [CN= 76.8: N= 3.00: Tp=  .27]
#-----------------|------------------------------------------------------------|

#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 800mm CULVERT-----|

#-----------------|------------------------------------------------------------|

#-----------------|------------------------------------------------------------|

R0001:C00038------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 05:EXT-1          3.50     .189 No_date    6:03
14.68  n/a     .000
                    +     1.0 02:EXT-2          4.10     .230 No_date    6:03
14.68  n/a     .000
                    +     1.0 03:EXT-3          2.20     .119 No_date    6:03
14.68  n/a     .000
                    +     1.0 04:INT-4          2.00     .146 No_date    6:00
14.68  n/a     .000
                    +     1.0 06:INT-1          1.40     .060 No_date    6:11
17.96  n/a     .000
```



```
                 SUM=     1.0 01:825mm         13.20     .704 No_date    6:02
15.03  n/a     .000
#-----------------|------------------------------------------------------------|

#-----------------|-----------------OUTLET B---------------------------------|

R0001:C00039------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 04:EXT-4          2.60     .141 No_date    6:03
14.68 .266     .000
      [CN= 73.0: N= 3.00: Tp=  .13]
R0001:C00040------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 05:INT-5           .90     .066 No_date    6:00
14.68 .266     .000
      [CN= 73.0: N= 3.00: Tp=  .05]
R0001:C00041------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 06:INT-2          5.80     .200 No_date    6:14
16.11 .292     .000
      [CN= 74.7: N= 3.00: Tp=  .31]
R0001:C00042------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 07:UNC-3          1.90     .121 No_date    6:00
13.37 .242     .000
      [CN= 69.7: N= 3.00: Tp=  .06]
#-----------------|------------------------------------------------------------|

#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 900mm CULVERT     |

#-----------------|------------------------------------------------------------|

#-----------------|------------------------------------------------------------|

R0001:C00043------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
```

```
    ADD HYD              1.0 04:EXT-4          2.60     .141 No_date    6:03
14.68  n/a     .000
                    +    1.0 05:INT-5           .90     .066 No_date    6:00
14.68  n/a     .000
                    +    1.0 06:INT-2          5.80     .200 No_date    6:14
16.11  n/a     .000
                    +    1.0 07:UNC-3          1.90     .121 No_date    6:00
13.37  n/a     .000
                 SUM=    1.0 02:900mm         11.20     .444 No_date    6:01
15.20  n/a     .000
#-----------------|-----------------------------------------------------------|


#-----------------|-----------------OUTLET C----------------------------------|


R0001:C00044------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD         1.0 05:EXT-5          5.20     .304 No_date    6:02
14.68 .266     .000
      [CN= 73.0: N= 3.00: Tp=  .11]
R0001:C00045------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD         1.0 06:INT-6           .70     .051 No_date    6:00
14.68 .266     .000
      [CN= 73.0: N= 3.00: Tp=  .05]
R0001:C00046------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD         1.0 07:INT-3          4.90     .145 No_date    6:19
16.32 .296     .000
      [CN= 74.8: N= 3.00: Tp=  .39]
R0001:C00047------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD         1.0 08:UNC-4          3.20     .024 No_date    6:15
3.91 .071     .000
      [CN= 34.4: N= 3.00: Tp=  .32]
#-----------------|-----------------------------------------------------------|


#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO OUTLET C--------------|


#-----------------|-----------------------------------------------------------|
```



```
R0001:C00048------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD              1.0 05:EXT-5          5.20     .304 No_date    6:02
14.68  n/a     .000
                    +    1.0 06:INT-6           .70     .051 No_date    6:00
14.68  n/a     .000
                    +    1.0 07:INT-3          4.90     .145 No_date    6:19
16.32  n/a     .000
                    +    1.0 08:UNC-4          3.20     .024 No_date    6:15
3.91  n/a     .000
                 SUM=    1.0 03:OUTLET C      14.00     .445 No_date    6:02
12.79  n/a     .000
R0001:C00049------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD         1.0 04:Ext-6          6.00     .158 No_date    6:20
14.68 .266     .000
      [CN= 73.0: N= 3.00: Tp=  .39]
#-----------------|-----------------------------------------------------------|


R0001:C00050------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD         1.0 09:Ext-7          6.00     .261 No_date    6:06
14.68 .266     .000
      [CN= 73.0: N= 3.00: Tp=  .19]
#-----------------|-----------------------------------------------------------|


R0001:C00051------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD         1.0 10:Ext-8         12.80     .379 No_date    6:20
16.58 .300     .000
      [CN= 75.2: N= 3.00: Tp=  .40]
#-----------------|-----------------------------------------------------------|


#-----------------|-----------------------------------------------------------|


#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE NE DITCH          |
```

```
#-----------------|-----------------------------------------------------------|

#-----------------|-----------------------------------------------------------|

R0001:C00052------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD              1.0 03:OUTLET C      14.00     .445 No_date    6:02
12.79  n/a     .000
                   +     1.0 04:Ext-6          6.00     .158 No_date    6:20
14.68  n/a     .000
                   +     1.0 09:Ext-7          6.00     .261 No_date    6:06
14.68  n/a     .000
                   +     1.0 10:Ext-8         12.80     .379 No_date    6:20
16.58  n/a     .000
                SUM=     1.0 06:NE_DITCH      38.80    1.059 No_date    6:07
14.62  n/a     .000
R0001:C00053------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD         1.0 04:Ext-9          7.00     .255 No_date    6:15
17.94 .325     .000
      [CN= 76.8: N= 3.00: Tp=  .34]
#-----------------|-----------------------------------------------------------|

#-----------------|  THE ADD HYD BELOW MODELS Subwatershed 21A Outflow--------|

#-----------------|-----------------------------------------------------------|

#-----------------|-----------------------------------------------------------|

R0001:C00054------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD              1.0 06:NE_DITCH      38.80    1.059 No_date    6:07
14.62  n/a     .000
                   +     1.0 04:Ext-9          7.00     .255 No_date    6:15
17.94  n/a     .000
```



```
                SUM=     1.0 05:21A           45.80    1.292 No_date    6:09
15.13  n/a     .000
R0001:C00055------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD         1.0 04:Ext-10A       27.90     .677 No_date    6:07
8.79 .159     .000
      [CN= 56.0: N= 3.00: Tp=  .20]
#-----------------|-----------------------------------------------------------|

R0001:C00056------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD         1.0 03:Ext-11         3.90     .273 No_date    6:01
15.75 .285     .000
      [CN= 72.9: N= 3.00: Tp=  .08]
#-----------------|-----------------------------------------------------------|

R0001:C00057------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD         1.0 06:Ext-12         5.20     .233 No_date    6:06
14.68 .266     .000
      [CN= 73.0: N= 3.00: Tp=  .18]
#-----------------|-----------------------------------------------------------|

#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO EX. STORAGE AREA------|

#-----------------|-----------------------------------------------------------|

#-----------------|-----------------------------------------------------------|

R0001:C00058------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD              1.0 01:825mm         13.20     .704 No_date    6:02
15.03  n/a     .000
                   +     1.0 02:900mm         11.20     .444 No_date    6:01
15.20  n/a     .000
                   +     1.0 04:Ext-10A       27.90     .677 No_date    6:07
```

```
8.79  n/a     .000
                    +     1.0 03:Ext-11         3.90     .273 No_date    6:01
15.75  n/a     .000
                    +     1.0 06:Ext-12         5.20     .233 No_date    6:06
14.68  n/a     .000
                 SUM=     1.0 05:WET-STO       61.40    2.218 No_date    6:02
12.24  n/a     .000
R0001:C00059------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 05:WET-STO       61.40    2.218 No_date    6:02
12.24  n/a     .000
                out <=    1.0 04:22            61.40     .277 No_date    7:12
12.24  n/a     .000
           overflow <=    1.0 06:OVF             .00     .000 No_date    0:00
.00  n/a     .000
     {MxStoUsed=.3638E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=
0.hrs}
R0001:C00060------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 03:Ext-10B        4.90     .139 No_date    6:05
9.24 .167     .000
      [CN= 54.6: N= 3.00: Tp=  .17]
#-----------------|----------------------------------------------------------|

#-----------------|  THE ADD HYD BELOW MODELS SUBWATERSHED 22 OUTFLOW --------|

#-----------------|----------------------------------------------------------|

#-----------------|----------------------------------------------------------|

R0001:C00061------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 03:Ext-10B        4.90     .139 No_date    6:05
9.24  n/a     .000
                    +     1.0 04:22            61.40     .277 No_date    7:12
12.24  n/a     .000
                    +     1.0 06:OVF             .00     .000 No_date    0:00
.00  n/a     .000
                 SUM=     1.0 05:22            66.30     .351 No_date    6:08
12.02  n/a     .000
```



```
#-----------------|----------------------------------------------------------|

#-----------------|----------10YR SCS (12HR)---------------------------------|

#-----------------|----------------------------------------------------------|

R0001:C00062----------------------------------------------------------------------
----------------
     MASS STORM
      Filename = C:\SWMHYMO\Projects\119-2528 Alta Phase
II\2021.06.30\Craigleith_SC
      Comment  = 12 hour SCS II storm mass curve

      [SDT= 1.00:SDUR=  12.00:PTOT=  66.00]
#-----------------|----------------------------------------------------------|

#-----------------|-----------PRE-DEVELOPMENT--------------------------------|

#-----------------|----------------------------------------------------------|

#-----------------|-----------------OUTLET A--------------------------------|

#-----------------|----------------------------------------------------------|

R0001:C00063------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 05:EXT-1          3.50     .272 No_date    6:03
20.91 .317     .000
      [CN= 73.0: N= 3.00: Tp=  .13]
R0001:C00064------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 02:EXT-2          4.10     .331 No_date    6:02
```

```
20.91 .317     .000
      [CN= 73.0: N= 3.00: Tp=  .12]
R0001:C00065------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 03:EXT-3          2.20     .171 No_date    6:03
20.91 .317     .000
      [CN= 73.0: N= 3.00: Tp=  .13]
R0001:C00066------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 04:INT-4          2.00     .207 No_date    6:00
20.91 .317     .000
      [CN= 73.0: N= 3.00: Tp=  .05]
R0001:C00067------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 06:INT-1          1.40     .085 No_date    6:10
24.96 .378     .000
      [CN= 76.8: N= 3.00: Tp=  .27]
#------------------|---------------------------------------------------------|

#------------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 800mm CULVERT-----|

#------------------|---------------------------------------------------------|

#------------------|---------------------------------------------------------|

R0001:C00068------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 05:EXT-1          3.50     .272 No_date    6:03
20.91  n/a     .000
                    +     1.0 02:EXT-2          4.10     .331 No_date    6:02
20.91  n/a     .000
                    +     1.0 03:EXT-3          2.20     .171 No_date    6:03
20.91  n/a     .000
                    +     1.0 04:INT-4          2.00     .207 No_date    6:00
20.91  n/a     .000
                    +     1.0 06:INT-1          1.40     .085 No_date    6:10
24.96  n/a     .000
                 SUM=     1.0 01:825mm         13.20    1.012 No_date    6:01
21.34  n/a     .000
#------------------|---------------------------------------------------------|
```



```
#------------------|-----------------OUTLET B---------------------------------|

R0001:C00069------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 04:EXT-4          2.60     .202 No_date    6:03
20.91 .317     .000
      [CN= 73.0: N= 3.00: Tp=  .13]
R0001:C00070------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 05:INT-5           .90     .093 No_date    6:00
20.91 .317     .000
      [CN= 73.0: N= 3.00: Tp=  .05]
R0001:C00071------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 06:INT-2          5.80     .287 No_date    6:13
22.68 .344     .000
      [CN= 74.7: N= 3.00: Tp=  .31]
R0001:C00072------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 07:UNC-3          1.90     .172 No_date    6:00
19.12 .290     .000
      [CN= 69.7: N= 3.00: Tp=  .06]
#------------------|---------------------------------------------------------|

#------------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 900mm CULVERT     |

#------------------|---------------------------------------------------------|

#------------------|---------------------------------------------------------|

R0001:C00073------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 04:EXT-4          2.60     .202 No_date    6:03
20.91  n/a     .000
                    +     1.0 05:INT-5           .90     .093 No_date    6:00
```

```
20.91  n/a     .000
                    +     1.0 06:INT-2          5.80     .287 No_date    6:13
22.68  n/a     .000
                    +     1.0 07:UNC-3          1.90     .172 No_date    6:00
19.12  n/a     .000
                 SUM=     1.0 02:900mm         11.20     .642 No_date    6:01
21.52  n/a     .000
#-----------------|----------------------------------------------------------|

#-----------------|-----------------OUTLET C---------------------------------|

R0001:C00074------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 05:EXT-5          5.20     .437 No_date    6:02
20.91 .317     .000
      [CN= 73.0: N= 3.00: Tp=  .11]
R0001:C00075------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 06:INT-6           .70     .072 No_date    6:00
20.91 .317     .000
      [CN= 73.0: N= 3.00: Tp=  .05]
R0001:C00076------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 07:INT-3          4.90     .208 No_date    6:19
22.92 .347     .000
      [CN= 74.8: N= 3.00: Tp=  .39]
R0001:C00077------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 08:UNC-4          3.20     .037 No_date    6:15
5.86 .089     .000
      [CN= 34.4: N= 3.00: Tp=  .32]
#-----------------|----------------------------------------------------------|

#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO OUTLET C--------------|

#-----------------|----------------------------------------------------------|

R0001:C00078------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
```



```
mm-R.C.---DWFcms
    ADD HYD               1.0 05:EXT-5          5.20     .437 No_date    6:02
20.91  n/a     .000
                    +     1.0 06:INT-6           .70     .072 No_date    6:00
20.91  n/a     .000
                    +     1.0 07:INT-3          4.90     .208 No_date    6:19
22.92  n/a     .000
                    +     1.0 08:UNC-4          3.20     .037 No_date    6:15
5.86  n/a     .000
                 SUM=     1.0 03:OUTLET C      14.00     .644 No_date    6:02
18.18  n/a     .000
R0001:C00079------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 04:Ext-6          6.00     .230 No_date    6:19
20.91 .317     .000
      [CN= 73.0: N= 3.00: Tp=  .39]
#-----------------|----------------------------------------------------------|

R0001:C00080------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 09:Ext-7          6.00     .378 No_date    6:06
20.91 .317     .000
      [CN= 73.0: N= 3.00: Tp=  .19]
#-----------------|----------------------------------------------------------|

R0001:C00081------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 10:Ext-8         12.80     .542 No_date    6:19
23.25 .352     .000
      [CN= 75.2: N= 3.00: Tp=  .40]
#-----------------|----------------------------------------------------------|

#-----------------|----------------------------------------------------------|

#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE NE DITCH          |

#-----------------|----------------------------------------------------------|
```

```
#-----------------|----------------------------------------------------------|

R0001:C00082------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD              1.0 03:OUTLET C      14.00     .644 No_date    6:02
18.18  n/a     .000
                    +     1.0 04:Ext-6          6.00     .230 No_date    6:19
20.91  n/a     .000
                    +     1.0 09:Ext-7          6.00     .378 No_date    6:06
20.91  n/a     .000
                    +     1.0 10:Ext-8         12.80     .542 No_date    6:19
23.25  n/a     .000
                 SUM=     1.0 06:NE_DITCH      38.80    1.540 No_date    6:07
20.70  n/a     .000
R0001:C00083------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD         1.0 04:Ext-9          7.00     .360 No_date    6:15
24.93 .378     .000
      [CN= 76.8: N= 3.00: Tp=  .34]
#-----------------|----------------------------------------------------------|

#-----------------|  THE ADD HYD BELOW MODELS Subwatershed 21A Outflow--------|

#-----------------|----------------------------------------------------------|

#-----------------|----------------------------------------------------------|

R0001:C00084------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD              1.0 06:NE_DITCH      38.80    1.540 No_date    6:07
20.70  n/a     .000
                    +     1.0 04:Ext-9          7.00     .360 No_date    6:15
24.93  n/a     .000
                 SUM=     1.0 05:21A           45.80    1.866 No_date    6:09
21.34  n/a     .000
R0001:C00085------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
```



```
mm-R.C.---DWFcms
    CALIB NASHYD         1.0 04:Ext-10A       27.90     .998 No_date    6:07
12.78 .194     .000
      [CN= 56.0: N= 3.00: Tp=  .20]
#-----------------|----------------------------------------------------------|

R0001:C00086------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD         1.0 03:Ext-11         3.90     .382 No_date    6:01
22.10 .335     .000
      [CN= 72.9: N= 3.00: Tp=  .08]
#-----------------|----------------------------------------------------------|

R0001:C00087------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD         1.0 06:Ext-12         5.20     .338 No_date    6:05
20.91 .317     .000
      [CN= 73.0: N= 3.00: Tp=  .18]
#-----------------|----------------------------------------------------------|

#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO EX. STORAGE AREA------|

#-----------------|----------------------------------------------------------|

#-----------------|----------------------------------------------------------|

R0001:C00088------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD              1.0 01:825mm         13.20    1.012 No_date    6:01
21.34  n/a     .000
                    +     1.0 02:900mm         11.20     .642 No_date    6:01
21.52  n/a     .000
                    +     1.0 04:Ext-10A       27.90     .998 No_date    6:07
12.78  n/a     .000
                    +     1.0 03:Ext-11         3.90     .382 No_date    6:01
22.10  n/a     .000
```

```
                    +     1.0 06:Ext-12         5.20     .338 No_date    6:05
20.91  n/a     .000
                 SUM=     1.0 05:WET-STO       61.40    3.218 No_date    6:02
17.50  n/a     .000
R0001:C00089------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 05:WET-STO       61.40    3.218 No_date    6:02
17.50  n/a     .000
                out <=    1.0 04:22            61.40     .333 No_date    7:25
17.50  n/a     .000
           overflow <=    1.0 06:OVF             .00     .000 No_date    0:00
.00  n/a     .000
     {MxStoUsed=.5644E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=
0.hrs}
R0001:C00090------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 03:Ext-10B        4.90     .200 No_date    6:05
13.22 .200     .000
      [CN= 54.6: N= 3.00: Tp=  .17]
#-----------------|-----------------------------------------------------------|


#-----------------|  THE ADD HYD BELOW MODELS SUBWATERSHED 22 OUTFLOW --------|


#-----------------|-----------------------------------------------------------|


#-----------------|-----------------------------------------------------------|


R0001:C00091------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 03:Ext-10B        4.90     .200 No_date    6:05
13.22  n/a     .000
                    +     1.0 04:22            61.40     .333 No_date    7:25
17.50  n/a     .000
                    +     1.0 06:OVF             .00     .000 No_date    0:00
.00  n/a     .000
                 SUM=     1.0 05:22            66.30     .447 No_date    6:07
17.18  n/a     .000
#-----------------|-----------------------------------------------------------|
```



```
#-----------------|----------25YR SCS (12HR)---------------------------------|


#-----------------|-----------------------------------------------------------|


R0001:C00092-------------------------------------------------------------------
----------------
     MASS STORM
      Filename = C:\SWMHYMO\Projects\119-2528 Alta Phase
II\2021.06.30\Craigleith_SC
      Comment  = 12 hour SCS II storm mass curve

      [SDT= 1.00:SDUR=  12.00:PTOT=  79.20]
#-----------------|-----------------------------------------------------------|


#-----------------|-----------PRE-DEVELOPMENT--------------------------------|


#-----------------|-----------------------------------------------------------|


#-----------------|-----------------OUTLET A---------------------------------|


#-----------------|-----------------------------------------------------------|


R0001:C00093------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 05:EXT-1          3.50     .385 No_date    6:03
29.35 .371     .000
      [CN= 73.0: N= 3.00: Tp=  .13]
R0001:C00094------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 02:EXT-2          4.10     .467 No_date    6:02
29.35 .371     .000
      [CN= 73.0: N= 3.00: Tp=  .12]
R0001:C00095------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
```

```
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 03:EXT-3          2.20     .242 No_date    6:03
29.35 .371     .000
      [CN= 73.0: N= 3.00: Tp=  .13]
R0001:C00096------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 04:INT-4          2.00     .287 No_date    6:00
29.35 .371     .000
      [CN= 73.0: N= 3.00: Tp=  .05]
R0001:C00097------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 06:INT-1          1.40     .117 No_date    6:10
34.25 .433     .000
      [CN= 76.8: N= 3.00: Tp=  .27]
#-----------------|-----------------------------------------------------------|

#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 800mm CULVERT-----|

#-----------------|-----------------------------------------------------------|

#-----------------|-----------------------------------------------------------|

R0001:C00098------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 05:EXT-1          3.50     .385 No_date    6:03
29.35  n/a     .000
                    +     1.0 02:EXT-2          4.10     .467 No_date    6:02
29.35  n/a     .000
                    +     1.0 03:EXT-3          2.20     .242 No_date    6:03
29.35  n/a     .000
                    +     1.0 04:INT-4          2.00     .287 No_date    6:00
29.35  n/a     .000
                    +     1.0 06:INT-1          1.40     .117 No_date    6:10
34.25  n/a     .000
                 SUM=     1.0 01:825mm         13.20    1.429 No_date    6:01
29.87  n/a     .000
#-----------------|-----------------------------------------------------------|
```



```
#-----------------|-----------------OUTLET B---------------------------------|

R0001:C00099------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 04:EXT-4          2.60     .286 No_date    6:03
29.35 .371     .000
      [CN= 73.0: N= 3.00: Tp=  .13]
R0001:C00100------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 05:INT-5           .90     .129 No_date    6:00
29.35 .371     .000
      [CN= 73.0: N= 3.00: Tp=  .05]
R0001:C00101------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 06:INT-2          5.80     .404 No_date    6:13
31.50 .398     .000
      [CN= 74.7: N= 3.00: Tp=  .31]
R0001:C00102------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 07:UNC-3          1.90     .242 No_date    6:00
26.97 .340     .000
      [CN= 69.7: N= 3.00: Tp=  .06]
#-----------------|-----------------------------------------------------------|

#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 900mm CULVERT     |

#-----------------|-----------------------------------------------------------|

#-----------------|-----------------------------------------------------------|

R0001:C00103------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 04:EXT-4          2.60     .286 No_date    6:03
29.35  n/a     .000
                    +     1.0 05:INT-5           .90     .129 No_date    6:00
29.35  n/a     .000
                    +     1.0 06:INT-2          5.80     .404 No_date    6:13
31.50  n/a     .000
```

```
 PRE_Craigleith_SCS12
                    +     1.0 07:UNC-3          1.90     .242 No_date    6:00
26.97  n/a     .000
                 SUM=     1.0 02:900mm         11.20     .910 No_date    6:01
30.06  n/a     .000
#-----------------|-----------------------------------------------------------|


#-----------------|-----------------OUTLET C----------------------------------|


R0001:C00104------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 05:EXT-5          5.20     .615 No_date    6:02
29.35 .371     .000
      [CN= 73.0: N= 3.00: Tp=  .11]
R0001:C00105------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 06:INT-6           .70     .100 No_date    6:00
29.35 .371     .000
      [CN= 73.0: N= 3.00: Tp=  .05]
R0001:C00106------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 07:INT-3          4.90     .293 No_date    6:18
31.78 .401     .000
      [CN= 74.8: N= 3.00: Tp=  .39]
R0001:C00107------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 08:UNC-4          3.20     .055 No_date    6:14
8.72 .110     .000
      [CN= 34.4: N= 3.00: Tp=  .32]
#-----------------|-----------------------------------------------------------|


#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO OUTLET C--------------|


#-----------------|-----------------------------------------------------------|


R0001:C00108------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 05:EXT-5          5.20     .615 No_date    6:02
29.35  n/a     .000
```



```
 PRE_Craigleith_SCS12
                    +     1.0 06:INT-6           .70     .100 No_date    6:00
29.35  n/a     .000
                    +     1.0 07:INT-3          4.90     .293 No_date    6:18
31.78  n/a     .000
                    +     1.0 08:UNC-4          3.20     .055 No_date    6:14
8.72  n/a     .000
                 SUM=     1.0 03:OUTLET C      14.00     .914 No_date    6:02
25.49  n/a     .000
R0001:C00109------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 04:Ext-6          6.00     .328 No_date    6:18
29.35 .371     .000
      [CN= 73.0: N= 3.00: Tp=  .39]
#-----------------|-----------------------------------------------------------|


R0001:C00110------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 09:Ext-7          6.00     .536 No_date    6:06
29.35 .371     .000
      [CN= 73.0: N= 3.00: Tp=  .19]
#-----------------|-----------------------------------------------------------|


R0001:C00111------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 10:Ext-8         12.80     .761 No_date    6:19
32.19 .406     .000
      [CN= 75.2: N= 3.00: Tp=  .40]
#-----------------|-----------------------------------------------------------|


#-----------------|-----------------------------------------------------------|


#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE NE DITCH          |


#-----------------|-----------------------------------------------------------|


#-----------------|-----------------------------------------------------------|
```

```
R0001:C00112------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 03:OUTLET C      14.00     .914 No_date    6:02
25.49  n/a     .000
                    +     1.0 04:Ext-6          6.00     .328 No_date    6:18
29.35  n/a     .000
                    +     1.0 09:Ext-7          6.00     .536 No_date    6:06
29.35  n/a     .000
                    +     1.0 10:Ext-8         12.80     .761 No_date    6:19
32.19  n/a     .000
                 SUM=     1.0 06:NE_DITCH      38.80    2.193 No_date    6:06
28.89  n/a     .000
R0001:C00113------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 04:Ext-9          7.00     .500 No_date    6:15
34.23 .432     .000
      [CN= 76.8: N= 3.00: Tp=  .34]
#-----------------|-----------------------------------------------------------|


#-----------------|  THE ADD HYD BELOW MODELS Subwatershed 21A Outflow--------|


#-----------------|-----------------------------------------------------------|


#-----------------|-----------------------------------------------------------|


R0001:C00114------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 06:NE_DITCH      38.80    2.193 No_date    6:06
28.89  n/a     .000
                    +     1.0 04:Ext-9          7.00     .500 No_date    6:15
34.23  n/a     .000
                 SUM=     1.0 05:21A           45.80    2.645 No_date    6:08
29.71  n/a     .000
R0001:C00115------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 04:Ext-10A       27.90    1.452 No_date    6:06
18.40 .232     .000
```



```
      [CN= 56.0: N= 3.00: Tp=  .20]
#-----------------|-----------------------------------------------------------|


R0001:C00116------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 03:Ext-11         3.90     .528 No_date    6:01
30.64 .387     .000
      [CN= 72.9: N= 3.00: Tp=  .08]
#-----------------|-----------------------------------------------------------|


R0001:C00117------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 06:Ext-12         5.20     .480 No_date    6:05
29.35 .371     .000
      [CN= 73.0: N= 3.00: Tp=  .18]
#-----------------|-----------------------------------------------------------|


#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO EX. STORAGE AREA------|


#-----------------|-----------------------------------------------------------|


#-----------------|-----------------------------------------------------------|


R0001:C00118------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 01:825mm         13.20    1.429 No_date    6:01
29.87  n/a     .000
                    +     1.0 02:900mm         11.20     .910 No_date    6:01
30.06  n/a     .000
                    +     1.0 04:Ext-10A       27.90    1.452 No_date    6:06
18.40  n/a     .000
                    +     1.0 03:Ext-11         3.90     .528 No_date    6:01
30.64  n/a     .000
                    +     1.0 06:Ext-12         5.20     .480 No_date    6:05
29.35  n/a     .000
                 SUM=     1.0 05:WET-STO       61.40    4.586 No_date    6:02
```

```
24.70  n/a     .000
R0001:C00119------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 05:WET-STO       61.40    4.586 No_date    6:02
24.70  n/a     .000
                out <=    1.0 04:22            61.40     .404 No_date    8:05
24.70  n/a     .000
           overflow <=    1.0 06:OVF             .00     .000 No_date    0:00
.00  n/a     .000
     {MxStoUsed=.8547E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=
0.hrs}
R0001:C00120------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 03:Ext-10B        4.90     .286 No_date    6:05
18.77 .237     .000
      [CN= 54.6: N= 3.00: Tp=  .17]
#------------------|-----------------------------------------------------------|


#------------------|  THE ADD HYD BELOW MODELS SUBWATERSHED 22 OUTFLOW --------|


#------------------|-----------------------------------------------------------|


#------------------|-----------------------------------------------------------|


R0001:C00121------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 03:Ext-10B        4.90     .286 No_date    6:05
18.77  n/a     .000
                    +     1.0 04:22            61.40     .404 No_date    8:05
24.70  n/a     .000
                    +     1.0 06:OVF             .00     .000 No_date    0:00
.00  n/a     .000
                 SUM=     1.0 05:22            66.30     .569 No_date    6:07
24.26  n/a     .000
#------------------|-----------------------------------------------------------|


#------------------|----------50YR SCS (12HR)----------------------------------|
```



```
#------------------|-----------------------------------------------------------|


R0001:C00122----------------------------------------------------------------------
----------------
     MASS STORM
      Filename = C:\SWMHYMO\Projects\119-2528 Alta Phase
II\2021.06.30\Craigleith_SC
      Comment  = 12 hour SCS II storm mass curve

      [SDT= 1.00:SDUR=  12.00:PTOT=  88.80]
#------------------|-----------------------------------------------------------|


#------------------|-----------PRE-DEVELOPMENT---------------------------------|


#------------------|-----------------------------------------------------------|


#------------------|-----------------OUTLET A---------------------------------|


#------------------|-----------------------------------------------------------|


R0001:C00123------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 05:EXT-1          3.50     .472 No_date    6:03
35.95 .405     .000
      [CN= 73.0: N= 3.00: Tp=  .13]
R0001:C00124------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 02:EXT-2          4.10     .573 No_date    6:02
35.95 .405     .000
      [CN= 73.0: N= 3.00: Tp=  .12]
R0001:C00125------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 03:EXT-3          2.20     .296 No_date    6:03
35.95 .405     .000
```

```
      [CN= 73.0: N= 3.00: Tp=  .13]
R0001:C00126------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 04:INT-4          2.00     .349 No_date    6:00
35.95 .405     .000
      [CN= 73.0: N= 3.00: Tp=  .05]
R0001:C00127------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 06:INT-1          1.40     .143 No_date    6:10
41.43 .467     .000
      [CN= 76.8: N= 3.00: Tp=  .27]
#-----------------|-----------------------------------------------------------|

#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 800mm CULVERT-----|

#-----------------|-----------------------------------------------------------|

#-----------------|-----------------------------------------------------------|

R0001:C00128------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 05:EXT-1          3.50     .472 No_date    6:03
35.95  n/a     .000
                    +     1.0 02:EXT-2          4.10     .573 No_date    6:02
35.95  n/a     .000
                    +     1.0 03:EXT-3          2.20     .296 No_date    6:03
35.95  n/a     .000
                    +     1.0 04:INT-4          2.00     .349 No_date    6:00
35.95  n/a     .000
                    +     1.0 06:INT-1          1.40     .143 No_date    6:10
41.43  n/a     .000
                 SUM=     1.0 01:825mm         13.20    1.753 No_date    6:01
36.53  n/a     .000
#-----------------|-----------------------------------------------------------|

#-----------------|-----------------OUTLET B---------------------------------|
```



```
R0001:C00129------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 04:EXT-4          2.60     .350 No_date    6:03
35.95 .405     .000
      [CN= 73.0: N= 3.00: Tp=  .13]
R0001:C00130------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 05:INT-5           .90     .157 No_date    6:00
35.95 .405     .000
      [CN= 73.0: N= 3.00: Tp=  .05]
R0001:C00131------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 06:INT-2          5.80     .495 No_date    6:13
38.36 .432     .000
      [CN= 74.7: N= 3.00: Tp=  .31]
R0001:C00132------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 07:UNC-3          1.90     .296 No_date    6:00
33.14 .373     .000
      [CN= 69.7: N= 3.00: Tp=  .06]
#-----------------|-----------------------------------------------------------|

#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 900mm CULVERT     |

#-----------------|-----------------------------------------------------------|

#-----------------|-----------------------------------------------------------|

R0001:C00133------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 04:EXT-4          2.60     .350 No_date    6:03
35.95  n/a     .000
                    +     1.0 05:INT-5           .90     .157 No_date    6:00
35.95  n/a     .000
                    +     1.0 06:INT-2          5.80     .495 No_date    6:13
38.36  n/a     .000
                    +     1.0 07:UNC-3          1.90     .296 No_date    6:00
33.14  n/a     .000
                 SUM=     1.0 02:900mm         11.20    1.120 No_date    6:01
```

```
36.72  n/a     .000
#-----------------|----------------------------------------------------------|

#-----------------|-----------------OUTLET C---------------------------------|

R0001:C00134------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 05:EXT-5          5.20     .753 No_date    6:02
35.95 .405     .000
      [CN= 73.0: N= 3.00: Tp=  .11]
R0001:C00135------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 06:INT-6           .70     .122 No_date    6:00
35.95 .405     .000
      [CN= 73.0: N= 3.00: Tp=  .05]
R0001:C00136------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 07:INT-3          4.90     .358 No_date    6:18
38.66 .435     .000
      [CN= 74.8: N= 3.00: Tp=  .39]
R0001:C00137------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 08:UNC-4          3.20     .071 No_date    6:14
11.10 .125     .000
      [CN= 34.4: N= 3.00: Tp=  .32]
#-----------------|----------------------------------------------------------|

#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO OUTLET C--------------|

#-----------------|----------------------------------------------------------|

R0001:C00138------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 05:EXT-5          5.20     .753 No_date    6:02
35.95  n/a     .000
                    +     1.0 06:INT-6           .70     .122 No_date    6:00
35.95  n/a     .000
                    +     1.0 07:INT-3          4.90     .358 No_date    6:18
```



```
38.66  n/a     .000
                    +     1.0 08:UNC-4          3.20     .071 No_date    6:14
11.10  n/a     .000
                 SUM=     1.0 03:OUTLET C      14.00    1.126 No_date    6:02
31.22  n/a     .000
R0001:C00139------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 04:Ext-6          6.00     .406 No_date    6:18
35.95 .405     .000
      [CN= 73.0: N= 3.00: Tp=  .39]
#-----------------|----------------------------------------------------------|

R0001:C00140------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 09:Ext-7          6.00     .660 No_date    6:06
35.95 .405     .000
      [CN= 73.0: N= 3.00: Tp=  .19]
#-----------------|----------------------------------------------------------|

R0001:C00141------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 10:Ext-8         12.80     .932 No_date    6:19
39.12 .441     .000
      [CN= 75.2: N= 3.00: Tp=  .40]
#-----------------|----------------------------------------------------------|

#-----------------|----------------------------------------------------------|

#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE NE DITCH          |

#-----------------|----------------------------------------------------------|

#-----------------|----------------------------------------------------------|
```

```
R0001:C00142------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD              1.0 03:OUTLET C      14.00    1.126 No_date    6:02
31.22  n/a     .000
                    +     1.0 04:Ext-6          6.00     .406 No_date    6:18
35.95  n/a     .000
                    +     1.0 09:Ext-7          6.00     .660 No_date    6:06
35.95  n/a     .000
                    +     1.0 10:Ext-8         12.80     .932 No_date    6:19
39.12  n/a     .000
                 SUM=     1.0 06:NE_DITCH      38.80    2.706 No_date    6:06
35.29  n/a     .000
R0001:C00143------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD         1.0 04:Ext-9          7.00     .608 No_date    6:14
41.40 .466     .000
      [CN= 76.8: N= 3.00: Tp=  .34]
#-----------------|------------------------------------------------------------|

#-----------------|  THE ADD HYD BELOW MODELS Subwatershed 21A Outflow--------|

#-----------------|------------------------------------------------------------|

#-----------------|------------------------------------------------------------|

R0001:C00144------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD              1.0 06:NE_DITCH      38.80    2.706 No_date    6:06
35.29  n/a     .000
                    +     1.0 04:Ext-9          7.00     .608 No_date    6:14
41.40  n/a     .000
                 SUM=     1.0 05:21A           45.80    3.255 No_date    6:08
36.22  n/a     .000
R0001:C00145------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD         1.0 04:Ext-10A       27.90    1.821 No_date    6:06
22.94 .258     .000
      [CN= 56.0: N= 3.00: Tp=  .20]
#-----------------|------------------------------------------------------------|
```



```
R0001:C00146------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD         1.0 03:Ext-11         3.90     .641 No_date    6:01
37.29 .420     .000
      [CN= 72.9: N= 3.00: Tp=  .08]
#-----------------|------------------------------------------------------------|

R0001:C00147------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD         1.0 06:Ext-12         5.20     .591 No_date    6:05
35.95 .405     .000
      [CN= 73.0: N= 3.00: Tp=  .18]
#-----------------|------------------------------------------------------------|

#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO EX. STORAGE AREA------|

#-----------------|------------------------------------------------------------|

#-----------------|------------------------------------------------------------|

R0001:C00148------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD              1.0 01:825mm         13.20    1.753 No_date    6:01
36.53  n/a     .000
                    +     1.0 02:900mm         11.20    1.120 No_date    6:01
36.72  n/a     .000
                    +     1.0 04:Ext-10A       27.90    1.821 No_date    6:06
22.94  n/a     .000
                    +     1.0 03:Ext-11         3.90     .641 No_date    6:01
37.29  n/a     .000
                    +     1.0 06:Ext-12         5.20     .591 No_date    6:05
35.95  n/a     .000
                 SUM=     1.0 05:WET-STO       61.40    5.666 No_date    6:02
30.39  n/a     .000
R0001:C00149------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
```

```
    ROUTE RESERVOIR ->    1.0 05:WET-STO       61.40    5.666 No_date    6:02
30.39  n/a     .000
            out <=    1.0 04:22            61.40     .460 No_date    8:07
30.39  n/a     .000
       overflow <=    1.0 06:OVF             .00     .000 No_date    0:00
.00  n/a     .000
     {MxStoUsed=.1091E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=
0.hrs}
R0001:C00150------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 03:Ext-10B        4.90     .356 No_date    6:05
23.25 .262     .000
      [CN= 54.6: N= 3.00: Tp=  .17]
#-----------------|------------------------------------------------------------|

#-----------------|  THE ADD HYD BELOW MODELS SUBWATERSHED 22 OUTFLOW --------|

#-----------------|------------------------------------------------------------|

#-----------------|------------------------------------------------------------|

R0001:C00151------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 03:Ext-10B        4.90     .356 No_date    6:05
23.25  n/a     .000
                    +     1.0 04:22            61.40     .460 No_date    8:07
30.39  n/a     .000
                    +     1.0 06:OVF             .00     .000 No_date    0:00
.00  n/a     .000
                 SUM=     1.0 05:22            66.30     .669 No_date    6:07
29.86  n/a     .000
#-----------------|------------------------------------------------------------|

#-----------------|----------100YR SCS (12HR)--------------------------------|

#-----------------|------------------------------------------------------------|
```



```
R0001:C00152-----------------------------------------------------------------------
----------------
     MASS STORM
      Filename = C:\SWMHYMO\Projects\119-2528 Alta Phase
II\2021.06.30\Craigleith_SC
      Comment  = 12 hour SCS II storm mass curve

      [SDT= 1.00:SDUR=  12.00:PTOT=  98.40]
#-----------------|------------------------------------------------------------|

#-----------------|-----------PRE-DEVELOPMENT--------------------------------|

#-----------------|------------------------------------------------------------|

#-----------------|-----------------OUTLET A---------------------------------|

#-----------------|------------------------------------------------------------|

R0001:C00153------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 05:EXT-1          3.50     .563 No_date    6:03
42.86 .436     .000
      [CN= 73.0: N= 3.00: Tp=  .13]
R0001:C00154------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 02:EXT-2          4.10     .684 No_date    6:02
42.86 .436     .000
      [CN= 73.0: N= 3.00: Tp=  .12]
R0001:C00155------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 03:EXT-3          2.20     .354 No_date    6:03
42.86 .436     .000
      [CN= 73.0: N= 3.00: Tp=  .13]
R0001:C00156------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
```

```
 PRE_Craigleith_SCS12
    CALIB NASHYD          1.0 04:INT-4          2.00     .413 No_date    6:00
42.86 .436     .000
      [CN= 73.0: N= 3.00: Tp=  .05]
R0001:C00157------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 06:INT-1          1.40     .169 No_date    6:10
48.88 .497     .000
      [CN= 76.8: N= 3.00: Tp=  .27]
#------------------|------------------------------------------------------------|


#------------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 800mm CULVERT-----|


#------------------|------------------------------------------------------------|


#------------------|------------------------------------------------------------|


R0001:C00158------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 05:EXT-1          3.50     .563 No_date    6:03
42.86  n/a     .000
                    +     1.0 02:EXT-2          4.10     .684 No_date    6:02
42.86  n/a     .000
                    +     1.0 03:EXT-3          2.20     .354 No_date    6:03
42.86  n/a     .000
                    +     1.0 04:INT-4          2.00     .413 No_date    6:00
42.86  n/a     .000
                    +     1.0 06:INT-1          1.40     .169 No_date    6:10
48.88  n/a     .000
                 SUM=     1.0 01:825mm         13.20    2.092 No_date    6:01
43.49  n/a     .000
#------------------|------------------------------------------------------------|


#------------------|-----------------OUTLET B----------------------------------|


R0001:C00159------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
```


```
 PRE_Craigleith_SCS12
    CALIB NASHYD          1.0 04:EXT-4          2.60     .418 No_date    6:03
42.86 .436     .000
      [CN= 73.0: N= 3.00: Tp=  .13]
R0001:C00160------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 05:INT-5           .90     .186 No_date    6:00
42.86 .436     .000
      [CN= 73.0: N= 3.00: Tp=  .05]
R0001:C00161------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 06:INT-2          5.80     .591 No_date    6:12
45.51 .463     .000
      [CN= 74.7: N= 3.00: Tp=  .31]
R0001:C00162------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 07:UNC-3          1.90     .353 No_date    6:00
39.64 .403     .000
      [CN= 69.7: N= 3.00: Tp=  .06]
#------------------|------------------------------------------------------------|


#------------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 900mm CULVERT     |


#------------------|------------------------------------------------------------|


#------------------|------------------------------------------------------------|


R0001:C00163------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 04:EXT-4          2.60     .418 No_date    6:03
42.86  n/a     .000
                    +     1.0 05:INT-5           .90     .186 No_date    6:00
42.86  n/a     .000
                    +     1.0 06:INT-2          5.80     .591 No_date    6:12
45.51  n/a     .000
                    +     1.0 07:UNC-3          1.90     .353 No_date    6:00
39.64  n/a     .000
                 SUM=     1.0 02:900mm         11.20    1.340 No_date    6:01
43.69  n/a     .000
#------------------|------------------------------------------------------------|
```

```
#-----------------|-----------------OUTLET C---------------------------------|


R0001:C00164------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 05:EXT-5          5.20     .898 No_date    6:02
42.86 .436     .000
      [CN= 73.0: N= 3.00: Tp=  .11]
R0001:C00165------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 06:INT-6           .70     .145 No_date    6:00
42.86 .436     .000
      [CN= 73.0: N= 3.00: Tp=  .05]
R0001:C00166------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 07:INT-3          4.90     .427 No_date    6:18
45.84 .466     .000
      [CN= 74.8: N= 3.00: Tp=  .39]
R0001:C00167------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 08:UNC-4          3.20     .088 No_date    6:14
13.73 .139     .000
      [CN= 34.4: N= 3.00: Tp=  .32]
#-----------------|-----------------------------------------------------------|


#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO OUTLET C--------------|


#-----------------|-----------------------------------------------------------|


R0001:C00168------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 05:EXT-5          5.20     .898 No_date    6:02
42.86  n/a     .000
                    +     1.0 06:INT-6           .70     .145 No_date    6:00
42.86  n/a     .000
                    +     1.0 07:INT-3          4.90     .427 No_date    6:18
45.84  n/a     .000
                    +     1.0 08:UNC-4          3.20     .088 No_date    6:14
13.73  n/a     .000
```



```
                 SUM=     1.0 03:OUTLET C      14.00    1.347 No_date    6:02
37.24  n/a     .000
R0001:C00169------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 04:Ext-6          6.00     .487 No_date    6:18
42.86 .436     .000
      [CN= 73.0: N= 3.00: Tp=  .39]
#-----------------|-----------------------------------------------------------|


R0001:C00170------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 09:Ext-7          6.00     .789 No_date    6:05
42.86 .436     .000
      [CN= 73.0: N= 3.00: Tp=  .19]
#-----------------|-----------------------------------------------------------|


R0001:C00171------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 10:Ext-8         12.80    1.110 No_date    6:18
46.35 .471     .000
      [CN= 75.2: N= 3.00: Tp=  .40]
#-----------------|-----------------------------------------------------------|


#-----------------|-----------------------------------------------------------|


#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE NE DITCH          |


#-----------------|-----------------------------------------------------------|


#-----------------|-----------------------------------------------------------|


R0001:C00172------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 03:OUTLET C      14.00    1.347 No_date    6:02
```

```
37.24  n/a     .000
                    +     1.0 04:Ext-6          6.00     .487 No_date    6:18
42.86  n/a     .000
                    +     1.0 09:Ext-7          6.00     .789 No_date    6:05
42.86  n/a     .000
                    +     1.0 10:Ext-8         12.80    1.110 No_date    6:18
46.35  n/a     .000
                 SUM=     1.0 06:NE_DITCH      38.80    3.244 No_date    6:06
41.98  n/a     .000
R0001:C00173------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 04:Ext-9          7.00     .721 No_date    6:14
48.85 .496     .000
      [CN= 76.8: N= 3.00: Tp=  .34]
#-----------------|-----------------------------------------------------------|

#-----------------|  THE ADD HYD BELOW MODELS Subwatershed 21A Outflow--------|

#-----------------|-----------------------------------------------------------|

#-----------------|-----------------------------------------------------------|

R0001:C00174------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 06:NE_DITCH      38.80    3.244 No_date    6:06
41.98  n/a     .000
                    +     1.0 04:Ext-9          7.00     .721 No_date    6:14
48.85  n/a     .000
                 SUM=     1.0 05:21A           45.80    3.894 No_date    6:08
43.03  n/a     .000
R0001:C00175------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 04:Ext-10A       27.90    2.219 No_date    6:06
27.81 .283     .000
      [CN= 56.0: N= 3.00: Tp=  .20]
#-----------------|-----------------------------------------------------------|

R0001:C00176------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
```



```
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 03:Ext-11         3.90     .758 No_date    6:01
44.25 .450     .000
      [CN= 72.9: N= 3.00: Tp=  .08]
#-----------------|-----------------------------------------------------------|

R0001:C00177------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 06:Ext-12         5.20     .707 No_date    6:05
42.86 .436     .000
      [CN= 73.0: N= 3.00: Tp=  .18]
#-----------------|-----------------------------------------------------------|

#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO EX. STORAGE AREA------|

#-----------------|-----------------------------------------------------------|

#-----------------|-----------------------------------------------------------|

R0001:C00178------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 01:825mm         13.20    2.092 No_date    6:01
43.49  n/a     .000
                    +     1.0 02:900mm         11.20    1.340 No_date    6:01
43.69  n/a     .000
                    +     1.0 04:Ext-10A       27.90    2.219 No_date    6:06
27.81  n/a     .000
                    +     1.0 03:Ext-11         3.90     .758 No_date    6:01
44.25  n/a     .000
                    +     1.0 06:Ext-12         5.20     .707 No_date    6:05
42.86  n/a     .000
                 SUM=     1.0 05:WET-STO       61.40    6.807 No_date    6:02
36.40  n/a     .000
R0001:C00179------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 05:WET-STO       61.40    6.807 No_date    6:02
36.40  n/a     .000
                out <=    1.0 04:22            61.40     .490 No_date    8:11
```

```
36.40  n/a     .000
           overflow <=    1.0 06:OVF             .00     .000 No_date    0:00
.00  n/a     .000
     {MxStoUsed=.1358E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=
0.hrs}
R0001:C00180------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 03:Ext-10B        4.90     .430 No_date    6:05
28.04 .285     .000
      [CN= 54.6: N= 3.00: Tp=  .17]
#------------------|-----------------------------------------------------------|

#------------------|  THE ADD HYD BELOW MODELS SUBWATERSHED 22 OUTFLOW --------|

#------------------|-----------------------------------------------------------|

#------------------|-----------------------------------------------------------|

R0001:C00181------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 03:Ext-10B        4.90     .430 No_date    6:05
28.04  n/a     .000
                    +     1.0 04:22            61.40     .490 No_date    8:11
36.40  n/a     .000
                    +     1.0 06:OVF             .00     .000 No_date    0:00
.00  n/a     .000
                 SUM=     1.0 05:22            66.30     .776 No_date    6:06
35.78  n/a     .000
R0001:C00182-----------------------------------------------------------------------
----------------
    FINISH
-----------------------------------------------------------------------------------
----------------
***********************************************************************************
****************
     WARNINGS / ERRORS / NOTES
     -------------------------
   Simulation ended on 2021-06-30     at 12:17:50
===================================================================================
================
```

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

 SSSSS   W   W   M   M   H   H   Y   Y   M   M    OOO         222     000    11
77777 ========
 S       W W W   MM MM   H   H    Y Y    MM MM   O   O          2    0   0   11
7   7
 SSSSS   W W W   M M M   HHHHH     Y     M M M   O   O          2    0   0   11
   7 Ver4.05.0
     S    W W    M   M   H   H     Y     M   M   O   O       222     0   0   11
  7  APR 2017
 SSSSS    W W    M   M   H   H     Y     M   M    OOO        2       0   0   11
 7   ========
                                                             2       0   0   11
7    # 3737016
       StormWater Management HYdrologic Model                 222     000    11
7    ========

*******************************************************************************
***************
 *************************************  SWMHYMO Ver4.05.0
***************************************
 ******************  A single event and continuous hydrologic simulation model
*******************
 ******************     based on the principles of HYMO and its successors
*******************
 ******************                OTTHYMO-83 and OTTHYMO-89.
*******************

*******************************************************************************
***************
 ****************** Distributed by:  J.F. Sabourin and Associates Inc.
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*******************
 ******************                 Gatineau, Quebec: (819) 243-6858
*******************
 ******************                 E-Mail: swmhymo@jfsa.com
*******************

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


+++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
+++++++++++++++
```



```
 +++++++++++++++++ Licensed user: C.F. Crozier & Associates Inc.
++++++++++++++++++
 +++++++++++++++++                Collingwood          SERIAL#:3737016
++++++++++++++++++

+++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
+++++++++++++++


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

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


 ******************************   S U M M A R Y   O U T P U T
********************************

*******************************************************************************
***************
 *                 RUN DATE: 2021-06-30     TIME: 12:19:11     RUN COUNTER: 000005
             *

*******************************************************************************
***************
 * Input   file: C:\SWMHYMO\Projects\119-2528 Alta Phase
II\2021.06.30\Craigleith_SCS24\PRE_Craigl*
 *               eith_SCS24.Dat
             *
 * Output  file: C:\SWMHYMO\Projects\119-2528 Alta Phase
II\2021.06.30\Craigleith_SCS24\PRE_Craigl*
 *               eith_SCS24.out
             *
 * Summary file: C:\SWMHYMO\Projects\119-2528 Alta Phase
II\2021.06.30\Craigleith_SCS24\PRE_Craigl*
 *               eith_SCS24.sum
             *
 * User comments:
             *
```

```
 PRE_Craigleith_SCS24
 *
1:________________________________________________________________________________
____________*
 *
2:________________________________________________________________________________
____________*
 *
3:________________________________________________________________________________
____________*

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

#*******************************************************************************

#  Project Name: [ALTA PHASE II]    Project Number: [119-2528]

#  Date        : 2021.06.30

#  Modified    : 2021.06.30

#  Modeller    : [Z. Holland]

#  Company     : C.F. Crozier & Associates Inc.

#  License #   : 3737016

#*******************************************************************************

 RUN#:COMMAND#
R0001:C00001------------------------------------------------------------------
```



```
 PRE_Craigleith_SCS24
----------------
     START
      [TZERO =    .00 hrs on        0]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   0 ]
      [NRUN  = 0001 ]
#-----------------|-----------------------------------------------------------|

#-----------------|----------2YR SCS-----------------------------------------|

#-----------------|-----------------------------------------------------------|

R0001:C00002------------------------------------------------------------------
----------------
     MASS STORM
      Filename = C:\SWMHYMO\Projects\119-2528 Alta Phase
II\2021.06.30\Craigleith_SC
      Comment  = 24 hour SCS II storm mass curve

      [SDT= 1.00:SDUR=  24.00:PTOT=  45.60]
#-----------------|-----------------------------------------------------------|

#-----------------|-----------PRE-DEVELOPMENT--------------------------------|

#-----------------|-----------------------------------------------------------|

#-----------------|-----------------OUTLET A---------------------------------|

#-----------------|-----------------------------------------------------------|

R0001:C00003------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
```

```
    CALIB NASHYD          1.0 05:EXT-1          3.50     .099 No_date   12:15
9.78 .215     .000
      [CN= 73.0: N= 3.00: Tp=  .13]
R0001:C00004-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 02:EXT-2          4.10     .121 No_date   12:15
9.78 .215     .000
      [CN= 73.0: N= 3.00: Tp=  .12]
R0001:C00005-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 03:EXT-3          2.20     .063 No_date   12:15
9.78 .215     .000
      [CN= 73.0: N= 3.00: Tp=  .13]
R0001:C00006-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 04:INT-4          2.00     .079 No_date   12:12
9.78 .215     .000
      [CN= 73.0: N= 3.00: Tp=  .05]
R0001:C00007-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 06:INT-1          1.40     .034 No_date   12:23
12.35 .271     .000
      [CN= 76.8: N= 3.00: Tp=  .27]
#-----------------|-----------------------------------------------------------|

#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 800mm CULVERT-----|

#-----------------|-----------------------------------------------------------|

#-----------------|-----------------------------------------------------------|

R0001:C00008-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 05:EXT-1          3.50     .099 No_date   12:15
9.78  n/a     .000
                    +     1.0 02:EXT-2          4.10     .121 No_date   12:15
9.78  n/a     .000
                    +     1.0 03:EXT-3          2.20     .063 No_date   12:15
9.78  n/a     .000
                    +     1.0 04:INT-4          2.00     .079 No_date   12:12
```



```
9.78  n/a     .000
                    +     1.0 06:INT-1          1.40     .034 No_date   12:23
12.35  n/a     .000
                 SUM=     1.0 01:825mm         13.20     .372 No_date   12:14
10.06  n/a     .000
#-----------------|-----------------------------------------------------------|

#-----------------|-----------------OUTLET B----------------------------------|

R0001:C00009-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 04:EXT-4          2.60     .074 No_date   12:15
9.78 .215     .000
      [CN= 73.0: N= 3.00: Tp=  .13]
R0001:C00010-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 05:INT-5           .90     .036 No_date   12:12
9.78 .215     .000
      [CN= 73.0: N= 3.00: Tp=  .05]
R0001:C00011-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 06:INT-2          5.80     .110 No_date   12:27
10.89 .239     .000
      [CN= 74.7: N= 3.00: Tp=  .31]
R0001:C00012-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 07:UNC-3          1.90     .065 No_date   12:12
8.89 .195     .000
      [CN= 69.7: N= 3.00: Tp=  .06]
#-----------------|-----------------------------------------------------------|

#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 900mm CULVERT     |

#-----------------|-----------------------------------------------------------|

#-----------------|-----------------------------------------------------------|
```

```
R0001:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD              1.0 04:EXT-4          2.60     .074 No_date   12:15
9.78  n/a     .000
                    +     1.0 05:INT-5           .90     .036 No_date   12:12
9.78  n/a     .000
                    +     1.0 06:INT-2          5.80     .110 No_date   12:27
10.89  n/a     .000
                    +     1.0 07:UNC-3          1.90     .065 No_date   12:12
8.89  n/a     .000
                 SUM=     1.0 02:900mm         11.20     .236 No_date   12:14
10.21  n/a     .000
#-----------------|----------------------------------------------------------|


#-----------------|-----------------OUTLET C---------------------------------|


R0001:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD         1.0 05:EXT-5          5.20     .160 No_date   12:14
9.78 .215     .000
      [CN= 73.0: N= 3.00: Tp=  .11]
R0001:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD         1.0 06:INT-6           .70     .028 No_date   12:12
9.78 .215     .000
      [CN= 73.0: N= 3.00: Tp=  .05]
R0001:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD         1.0 07:INT-3          4.90     .081 No_date   12:32
11.07 .243     .000
      [CN= 74.8: N= 3.00: Tp=  .39]
R0001:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD         1.0 08:UNC-4          3.20     .012 No_date   12:28
2.48 .054     .000
      [CN= 34.4: N= 3.00: Tp=  .32]
#-----------------|----------------------------------------------------------|


#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO OUTLET C--------------|
```



```
#-----------------|----------------------------------------------------------|


R0001:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD              1.0 05:EXT-5          5.20     .160 No_date   12:14
9.78  n/a     .000
                    +     1.0 06:INT-6           .70     .028 No_date   12:12
9.78  n/a     .000
                    +     1.0 07:INT-3          4.90     .081 No_date   12:32
11.07  n/a     .000
                    +     1.0 08:UNC-4          3.20     .012 No_date   12:28
2.48  n/a     .000
                 SUM=     1.0 03:OUTLET C      14.00     .236 No_date   12:14
8.56  n/a     .000
R0001:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD         1.0 04:Ext-6          6.00     .085 No_date   12:32
9.78 .215     .000
      [CN= 73.0: N= 3.00: Tp=  .39]
#-----------------|----------------------------------------------------------|


R0001:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD         1.0 09:Ext-7          6.00     .138 No_date   12:19
9.78 .215     .000
      [CN= 73.0: N= 3.00: Tp=  .19]
#-----------------|----------------------------------------------------------|


R0001:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD         1.0 10:Ext-8         12.80     .212 No_date   12:32
11.26 .247     .000
      [CN= 75.2: N= 3.00: Tp=  .40]
#-----------------|----------------------------------------------------------|


#-----------------|----------------------------------------------------------|
```

```
#----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE NE DITCH          |


#----------------|-----------------------------------------------------------|


#----------------|-----------------------------------------------------------|


R0001:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD              1.0 03:OUTLET C      14.00     .236 No_date   12:14
8.56  n/a     .000
                   +     1.0 04:Ext-6          6.00     .085 No_date   12:32
9.78  n/a     .000
                   +     1.0 09:Ext-7          6.00     .138 No_date   12:19
9.78  n/a     .000
                   +     1.0 10:Ext-8         12.80     .212 No_date   12:32
11.26  n/a     .000
                 SUM=     1.0 06:NE_DITCH      38.80     .576 No_date   12:21
9.83  n/a     .000
R0001:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD         1.0 04:Ext-9          7.00     .144 No_date   12:28
12.33 .270     .000
      [CN= 76.8: N= 3.00: Tp=  .34]
#----------------|-----------------------------------------------------------|


#----------------|  THE ADD HYD BELOW MODELS Subwatershed 21A Outflow--------|


#----------------|-----------------------------------------------------------|


#----------------|-----------------------------------------------------------|


R0001:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD              1.0 06:NE_DITCH      38.80     .576 No_date   12:21
```



```
9.83  n/a     .000
                    +     1.0 04:Ext-9          7.00     .144 No_date   12:28
12.33  n/a     .000
                 SUM=     1.0 05:21A           45.80     .712 No_date   12:24
10.21  n/a     .000
R0001:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD         1.0 04:Ext-10A       27.90     .354 No_date   12:19
5.76 .126     .000
      [CN= 56.0: N= 3.00: Tp=  .20]
#----------------|-----------------------------------------------------------|


R0001:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD         1.0 03:Ext-11         3.90     .150 No_date   12:13
10.73 .235     .000
      [CN= 72.9: N= 3.00: Tp=  .08]
#----------------|-----------------------------------------------------------|


R0001:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD         1.0 06:Ext-12         5.20     .123 No_date   12:18
9.78 .215     .000
      [CN= 73.0: N= 3.00: Tp=  .18]
#----------------|-----------------------------------------------------------|


#----------------|  THE ADD HYD BELOW MODELS FLOW INTO EX. STORAGE AREA------|


#----------------|-----------------------------------------------------------|


#----------------|-----------------------------------------------------------|


R0001:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD              1.0 01:825mm         13.20     .372 No_date   12:14
10.06  n/a     .000
```

```
                   +     1.0 02:900mm         11.20     .236 No_date   12:14
10.21  n/a     .000
                   +     1.0 04:Ext-10A       27.90     .354 No_date   12:19
5.76  n/a     .000
                   +     1.0 03:Ext-11         3.90     .150 No_date   12:13
10.73  n/a     .000
                   +     1.0 06:Ext-12         5.20     .123 No_date   12:18
9.78  n/a     .000
                SUM=     1.0 05:WET-STO       61.40    1.173 No_date   12:15
8.15  n/a     .000
R0001:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 05:WET-STO       61.40    1.173 No_date   12:15
8.15  n/a     .000
               out <=    1.0 04:22            61.40     .212 No_date   13:07
8.15  n/a     .000
          overflow <=    1.0 06:OVF             .00     .000 No_date    0:00
.00  n/a     .000
     {MxStoUsed=.1675E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=
0.hrs}
R0001:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 03:Ext-10B        4.90     .075 No_date   12:17
6.21 .136     .000
      [CN= 54.6: N= 3.00: Tp=  .17]
#-----------------|-----------------------------------------------------------|


#-----------------|  THE ADD HYD BELOW MODELS SUBWATERSHED 22 OUTFLOW --------|


#-----------------|-----------------------------------------------------------|


#-----------------|-----------------------------------------------------------|


R0001:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 03:Ext-10B        4.90     .075 No_date   12:17
6.21  n/a     .000
                   +     1.0 04:22            61.40     .212 No_date   13:07
8.15  n/a     .000
                   +     1.0 06:OVF             .00     .000 No_date    0:00
```



```
.00  n/a     .000
                 SUM=     1.0 05:22            66.30     .254 No_date   12:20
8.01  n/a     .000
#-----------------|-----------------------------------------------------------|


#-----------------|----------5YR SCS------------------------------------------|


#-----------------|-----------------------------------------------------------|


R0001:C00032--------------------------------------------------------------------
----------------
     MASS STORM
      Filename = C:\SWMHYMO\Projects\119-2528 Alta Phase
II\2021.06.30\Craigleith_SC
      Comment  = 24 hour SCS II storm mass curve

      [SDT= 1.00:SDUR=  24.00:PTOT=  62.40]
#-----------------|-----------------------------------------------------------|


#-----------------|-----------PRE-DEVELOPMENT--------------------------------|


#-----------------|-----------------------------------------------------------|


#-----------------|-----------------OUTLET A---------------------------------|


#-----------------|-----------------------------------------------------------|


R0001:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 05:EXT-1          3.50     .197 No_date   12:15
18.76 .301     .000
      [CN= 73.0: N= 3.00: Tp=  .13]
```

```
R0001:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 02:EXT-2          4.10     .240 No_date   12:15
18.76 .301     .000
      [CN= 73.0: N= 3.00: Tp=  .12]
R0001:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 03:EXT-3          2.20     .124 No_date   12:15
18.76 .301     .000
      [CN= 73.0: N= 3.00: Tp=  .13]
R0001:C00036------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 04:INT-4          2.00     .152 No_date   12:12
18.76 .301     .000
      [CN= 73.0: N= 3.00: Tp=  .05]
R0001:C00037------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 06:INT-1          1.40     .064 No_date   12:23
22.56 .361     .000
      [CN= 76.8: N= 3.00: Tp=  .27]
#-----------------|------------------------------------------------------------|

#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 800mm CULVERT-----|

#-----------------|------------------------------------------------------------|

#-----------------|------------------------------------------------------------|

R0001:C00038------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 05:EXT-1          3.50     .197 No_date   12:15
18.76  n/a     .000
                    +     1.0 02:EXT-2          4.10     .240 No_date   12:15
18.76  n/a     .000
                    +     1.0 03:EXT-3          2.20     .124 No_date   12:15
18.76  n/a     .000
                    +     1.0 04:INT-4          2.00     .152 No_date   12:12
18.76  n/a     .000
                    +     1.0 06:INT-1          1.40     .064 No_date   12:23
22.56  n/a     .000
```



```
                 SUM=     1.0 01:825mm         13.20     .734 No_date   12:14
19.16  n/a     .000
#-----------------|------------------------------------------------------------|

#-----------------|-----------------OUTLET B---------------------------------|

R0001:C00039------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 04:EXT-4          2.60     .147 No_date   12:15
18.76 .301     .000
      [CN= 73.0: N= 3.00: Tp=  .13]
R0001:C00040------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 05:INT-5           .90     .068 No_date   12:12
18.76 .301     .000
      [CN= 73.0: N= 3.00: Tp=  .05]
R0001:C00041------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 06:INT-2          5.80     .216 No_date   12:26
20.41 .327     .000
      [CN= 74.7: N= 3.00: Tp=  .31]
R0001:C00042------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 07:UNC-3          1.90     .126 No_date   12:12
17.13 .275     .000
      [CN= 69.7: N= 3.00: Tp=  .06]
#-----------------|------------------------------------------------------------|

#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 900mm CULVERT     |

#-----------------|------------------------------------------------------------|

#-----------------|------------------------------------------------------------|

R0001:C00043------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
```

```
    ADD HYD              1.0 04:EXT-4          2.60     .147 No_date   12:15
18.76  n/a     .000
                    +     1.0 05:INT-5           .90     .068 No_date   12:12
18.76  n/a     .000
                    +     1.0 06:INT-2          5.80     .216 No_date   12:26
20.41  n/a     .000
                    +     1.0 07:UNC-3          1.90     .126 No_date   12:12
17.13  n/a     .000
                 SUM=     1.0 02:900mm         11.20     .472 No_date   12:13
19.34  n/a     .000
#-----------------|------------------------------------------------------------|


#-----------------|-----------------OUTLET C---------------------------------|


R0001:C00044------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD         1.0 05:EXT-5          5.20     .316 No_date   12:14
18.76 .301     .000
      [CN= 73.0: N= 3.00: Tp=  .11]
R0001:C00045------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD         1.0 06:INT-6           .70     .053 No_date   12:12
18.76 .301     .000
      [CN= 73.0: N= 3.00: Tp=  .05]
R0001:C00046------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD         1.0 07:INT-3          4.90     .158 No_date   12:31
20.65 .331     .000
      [CN= 74.8: N= 3.00: Tp=  .39]
R0001:C00047------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD         1.0 08:UNC-4          3.20     .027 No_date   12:27
5.17 .083     .000
      [CN= 34.4: N= 3.00: Tp=  .32]
#-----------------|------------------------------------------------------------|


#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO OUTLET C--------------|


#-----------------|------------------------------------------------------------|
```



```
R0001:C00048------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD              1.0 05:EXT-5          5.20     .316 No_date   12:14
18.76  n/a     .000
                    +     1.0 06:INT-6           .70     .053 No_date   12:12
18.76  n/a     .000
                    +     1.0 07:INT-3          4.90     .158 No_date   12:31
20.65  n/a     .000
                    +     1.0 08:UNC-4          3.20     .027 No_date   12:27
5.17  n/a     .000
                 SUM=     1.0 03:OUTLET C      14.00     .474 No_date   12:14
16.32  n/a     .000
R0001:C00049------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD         1.0 04:Ext-6          6.00     .174 No_date   12:31
18.76 .301     .000
      [CN= 73.0: N= 3.00: Tp=  .39]
#-----------------|------------------------------------------------------------|


R0001:C00050------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD         1.0 09:Ext-7          6.00     .276 No_date   12:18
18.76 .301     .000
      [CN= 73.0: N= 3.00: Tp=  .19]
#-----------------|------------------------------------------------------------|


R0001:C00051------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD         1.0 10:Ext-8         12.80     .412 No_date   12:31
20.95 .336     .000
      [CN= 75.2: N= 3.00: Tp=  .40]
#-----------------|------------------------------------------------------------|


#-----------------|------------------------------------------------------------|


#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE NE DITCH          |
```

```
#-----------------|----------------------------------------------------------|

#-----------------|----------------------------------------------------------|

R0001:C00052------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD              1.0 03:OUTLET C      14.00     .474 No_date   12:14
16.32  n/a     .000
                    +     1.0 04:Ext-6          6.00     .174 No_date   12:31
18.76  n/a     .000
                    +     1.0 09:Ext-7          6.00     .276 No_date   12:18
18.76  n/a     .000
                    +     1.0 10:Ext-8         12.80     .412 No_date   12:31
20.95  n/a     .000
                 SUM=     1.0 06:NE_DITCH      38.80    1.156 No_date   12:20
18.60  n/a     .000
R0001:C00053------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD         1.0 04:Ext-9          7.00     .273 No_date   12:27
22.53 .361     .000
      [CN= 76.8: N= 3.00: Tp=  .34]
#-----------------|----------------------------------------------------------|

#-----------------|  THE ADD HYD BELOW MODELS Subwatershed 21A Outflow--------|

#-----------------|----------------------------------------------------------|

#-----------------|----------------------------------------------------------|

R0001:C00054------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD              1.0 06:NE_DITCH      38.80    1.156 No_date   12:20
18.60  n/a     .000
                    +     1.0 04:Ext-9          7.00     .273 No_date   12:27
22.53  n/a     .000
```



```
                 SUM=     1.0 05:21A           45.80    1.409 No_date   12:22
19.20  n/a     .000
R0001:C00055------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD         1.0 04:Ext-10A       27.90     .723 No_date   12:19
11.39 .182     .000
      [CN= 56.0: N= 3.00: Tp=  .20]
#-----------------|----------------------------------------------------------|

R0001:C00056------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD         1.0 03:Ext-11         3.90     .281 No_date   12:13
19.91 .319     .000
      [CN= 72.9: N= 3.00: Tp=  .08]
#-----------------|----------------------------------------------------------|

R0001:C00057------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD         1.0 06:Ext-12         5.20     .247 No_date   12:18
18.76 .301     .000
      [CN= 73.0: N= 3.00: Tp=  .18]
#-----------------|----------------------------------------------------------|

#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO EX. STORAGE AREA------|

#-----------------|----------------------------------------------------------|

#-----------------|----------------------------------------------------------|

R0001:C00058------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD              1.0 01:825mm         13.20     .734 No_date   12:14
19.16  n/a     .000
                    +     1.0 02:900mm         11.20     .472 No_date   12:13
19.34  n/a     .000
                    +     1.0 04:Ext-10A       27.90     .723 No_date   12:19
```

```
11.39  n/a     .000
                    +     1.0 03:Ext-11         3.90     .281 No_date   12:13
19.91  n/a     .000
                    +     1.0 06:Ext-12         5.20     .247 No_date   12:18
18.76  n/a     .000
                 SUM=     1.0 05:WET-STO       61.40    2.341 No_date   12:14
15.68  n/a     .000
R0001:C00059------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 05:WET-STO       61.40    2.341 No_date   12:14
15.68  n/a     .000
                out <=    1.0 04:22            61.40     .287 No_date   13:21
15.68  n/a     .000
           overflow <=    1.0 06:OVF             .00     .000 No_date    0:00
.00  n/a     .000
     {MxStoUsed=.3977E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=
0.hrs}
R0001:C00060------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 03:Ext-10B        4.90     .145 No_date   12:17
11.83 .190     .000
      [CN= 54.6: N= 3.00: Tp=  .17]
#-----------------|-----------------------------------------------------------|

#-----------------|  THE ADD HYD BELOW MODELS SUBWATERSHED 22 OUTFLOW --------|

#-----------------|-----------------------------------------------------------|

#-----------------|-----------------------------------------------------------|

R0001:C00061------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 03:Ext-10B        4.90     .145 No_date   12:17
11.83  n/a     .000
                    +     1.0 04:22            61.40     .287 No_date   13:21
15.68  n/a     .000
                    +     1.0 06:OVF             .00     .000 No_date    0:00
.00  n/a     .000
                 SUM=     1.0 05:22            66.30     .370 No_date   12:20
15.39  n/a     .000
```



```
#-----------------|-----------------------------------------------------------|

#-----------------|----------10YR SCS-----------------------------------------|

#-----------------|-----------------------------------------------------------|

R0001:C00062--------------------------------------------------------------------
----------------
     MASS STORM
      Filename = C:\SWMHYMO\Projects\119-2528 Alta Phase
II\2021.06.30\Craigleith_SC
      Comment  = 24 hour SCS II storm mass curve

      [SDT= 1.00:SDUR=  24.00:PTOT=  72.00]
#-----------------|-----------------------------------------------------------|

#-----------------|-----------PRE-DEVELOPMENT---------------------------------|

#-----------------|-----------------------------------------------------------|

#-----------------|-----------------OUTLET A---------------------------------|

#-----------------|-----------------------------------------------------------|

R0001:C00063------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 05:EXT-1          3.50     .261 No_date   12:15
24.65 .342     .000
      [CN= 73.0: N= 3.00: Tp=  .13]
R0001:C00064------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 02:EXT-2          4.10     .317 No_date   12:14
```

```
24.65 .342     .000
      [CN= 73.0: N= 3.00: Tp=  .12]
R0001:C00065------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 03:EXT-3          2.20     .164 No_date   12:15
24.65 .342     .000
      [CN= 73.0: N= 3.00: Tp=  .13]
R0001:C00066------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 04:INT-4          2.00     .199 No_date   12:12
24.65 .342     .000
      [CN= 73.0: N= 3.00: Tp=  .05]
R0001:C00067------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 06:INT-1          1.40     .083 No_date   12:23
29.09 .404     .000
      [CN= 76.8: N= 3.00: Tp=  .27]
#-----------------|----------------------------------------------------------|

#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 800mm CULVERT-----|

#-----------------|----------------------------------------------------------|

#-----------------|----------------------------------------------------------|

R0001:C00068------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 05:EXT-1          3.50     .261 No_date   12:15
24.65  n/a     .000
                    +     1.0 02:EXT-2          4.10     .317 No_date   12:14
24.65  n/a     .000
                    +     1.0 03:EXT-3          2.20     .164 No_date   12:15
24.65  n/a     .000
                    +     1.0 04:INT-4          2.00     .199 No_date   12:12
24.65  n/a     .000
                    +     1.0 06:INT-1          1.40     .083 No_date   12:23
29.09  n/a     .000
                 SUM=     1.0 01:825mm         13.20     .971 No_date   12:14
25.12  n/a     .000
#-----------------|----------------------------------------------------------|
```



```
#-----------------|-----------------OUTLET B---------------------------------|

R0001:C00069------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 04:EXT-4          2.60     .194 No_date   12:15
24.65 .342     .000
      [CN= 73.0: N= 3.00: Tp=  .13]
R0001:C00070------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 05:INT-5           .90     .089 No_date   12:12
24.65 .342     .000
      [CN= 73.0: N= 3.00: Tp=  .05]
R0001:C00071------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 06:INT-2          5.80     .284 No_date   12:25
26.59 .369     .000
      [CN= 74.7: N= 3.00: Tp=  .31]
R0001:C00072------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 07:UNC-3          1.90     .166 No_date   12:12
22.58 .314     .000
      [CN= 69.7: N= 3.00: Tp=  .06]
#-----------------|----------------------------------------------------------|

#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 900mm CULVERT     |

#-----------------|----------------------------------------------------------|

#-----------------|----------------------------------------------------------|

R0001:C00073------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 04:EXT-4          2.60     .194 No_date   12:15
24.65  n/a     .000
                    +     1.0 05:INT-5           .90     .089 No_date   12:12
```

```
24.65  n/a     .000
                   +     1.0 06:INT-2          5.80     .284 No_date   12:25
26.59  n/a     .000
                   +     1.0 07:UNC-3          1.90     .166 No_date   12:12
22.58  n/a     .000
                SUM=     1.0 02:900mm         11.20     .627 No_date   12:13
25.31  n/a     .000
#-----------------|-----------------------------------------------------------|

#-----------------|-----------------OUTLET C---------------------------------|

R0001:C00074------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 05:EXT-5          5.20     .418 No_date   12:14
24.65 .342     .000
      [CN= 73.0: N= 3.00: Tp=  .11]
R0001:C00075------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 06:INT-6           .70     .070 No_date   12:12
24.65 .342     .000
      [CN= 73.0: N= 3.00: Tp=  .05]
R0001:C00076------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 07:INT-3          4.90     .208 No_date   12:31
26.85 .373     .000
      [CN= 74.8: N= 3.00: Tp=  .39]
R0001:C00077------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 08:UNC-4          3.20     .037 No_date   12:27
7.10 .099     .000
      [CN= 34.4: N= 3.00: Tp=  .32]
#-----------------|-----------------------------------------------------------|

#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO OUTLET C--------------|

#-----------------|-----------------------------------------------------------|

R0001:C00078------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
```



```
mm-R.C.---DWFcms
    ADD HYD               1.0 05:EXT-5          5.20     .418 No_date   12:14
24.65  n/a     .000
                   +     1.0 06:INT-6           .70     .070 No_date   12:12
24.65  n/a     .000
                   +     1.0 07:INT-3          4.90     .208 No_date   12:31
26.85  n/a     .000
                   +     1.0 08:UNC-4          3.20     .037 No_date   12:27
7.10  n/a     .000
                SUM=     1.0 03:OUTLET C      14.00     .630 No_date   12:14
21.41  n/a     .000
R0001:C00079------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 04:Ext-6          6.00     .232 No_date   12:31
24.65 .342     .000
      [CN= 73.0: N= 3.00: Tp=  .39]
#-----------------|-----------------------------------------------------------|

R0001:C00080------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 09:Ext-7          6.00     .367 No_date   12:18
24.65 .342     .000
      [CN= 73.0: N= 3.00: Tp=  .19]
#-----------------|-----------------------------------------------------------|

R0001:C00081------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 10:Ext-8         12.80     .542 No_date   12:31
27.22 .378     .000
      [CN= 75.2: N= 3.00: Tp=  .40]
#-----------------|-----------------------------------------------------------|

#-----------------|-----------------------------------------------------------|

#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE NE DITCH          |

#-----------------|-----------------------------------------------------------|
```

```
#-----------------|----------------------------------------------------------|



R0001:C00082------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD              1.0 03:OUTLET C      14.00     .630 No_date   12:14
21.41  n/a     .000
                    +     1.0 04:Ext-6          6.00     .232 No_date   12:31
24.65  n/a     .000
                    +     1.0 09:Ext-7          6.00     .367 No_date   12:18
24.65  n/a     .000
                    +     1.0 10:Ext-8         12.80     .542 No_date   12:31
27.22  n/a     .000
                 SUM=     1.0 06:NE_DITCH      38.80    1.538 No_date   12:19
24.33  n/a     .000
R0001:C00083------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD         1.0 04:Ext-9          7.00     .356 No_date   12:27
29.06 .404     .000
      [CN= 76.8: N= 3.00: Tp=  .34]
#-----------------|----------------------------------------------------------|



#-----------------|  THE ADD HYD BELOW MODELS Subwatershed 21A Outflow--------|



#-----------------|----------------------------------------------------------|



#-----------------|----------------------------------------------------------|



R0001:C00084------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD              1.0 06:NE_DITCH      38.80    1.538 No_date   12:19
24.33  n/a     .000
                    +     1.0 04:Ext-9          7.00     .356 No_date   12:27
29.06  n/a     .000
                 SUM=     1.0 05:21A           45.80    1.866 No_date   12:21
25.05  n/a     .000
R0001:C00085------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
```



```
mm-R.C.---DWFcms
    CALIB NASHYD         1.0 04:Ext-10A       27.90     .978 No_date   12:19
15.24 .212     .000
      [CN= 56.0: N= 3.00: Tp=  .20]
#-----------------|----------------------------------------------------------|



R0001:C00086------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD         1.0 03:Ext-11         3.90     .365 No_date   12:13
25.88 .359     .000
      [CN= 72.9: N= 3.00: Tp=  .08]
#-----------------|----------------------------------------------------------|



R0001:C00087------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD         1.0 06:Ext-12         5.20     .327 No_date   12:18
24.65 .342     .000
      [CN= 73.0: N= 3.00: Tp=  .18]
#-----------------|----------------------------------------------------------|



#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO EX. STORAGE AREA------|



#-----------------|----------------------------------------------------------|



#-----------------|----------------------------------------------------------|



R0001:C00088------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD              1.0 01:825mm         13.20     .971 No_date   12:14
25.12  n/a     .000
                    +     1.0 02:900mm         11.20     .627 No_date   12:13
25.31  n/a     .000
                    +     1.0 04:Ext-10A       27.90     .978 No_date   12:19
15.24  n/a     .000
                    +     1.0 03:Ext-11         3.90     .365 No_date   12:13
25.88  n/a     .000
```

```
                   +     1.0 06:Ext-12         5.20     .327 No_date   12:18
24.65  n/a     .000
                SUM=     1.0 05:WET-STO       61.40    3.120 No_date   12:14
20.67  n/a     .000
R0001:C00089------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 05:WET-STO       61.40    3.120 No_date   12:14
20.67  n/a     .000
                out <=    1.0 04:22           61.40     .331 No_date   13:27
20.67  n/a     .000
           overflow <=    1.0 06:OVF            .00     .000 No_date    0:00
.00  n/a     .000
     {MxStoUsed=.5592E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=
0.hrs}
R0001:C00090------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 03:Ext-10B        4.90     .193 No_date   12:17
15.65 .217     .000
      [CN= 54.6: N= 3.00: Tp=  .17]
#-----------------|-----------------------------------------------------------|



#-----------------|  THE ADD HYD BELOW MODELS SUBWATERSHED 22 OUTFLOW --------|



#-----------------|-----------------------------------------------------------|



#-----------------|-----------------------------------------------------------|



R0001:C00091------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 03:Ext-10B        4.90     .193 No_date   12:17
15.65  n/a     .000
                    +     1.0 04:22           61.40     .331 No_date   13:27
20.67  n/a     .000
                    +     1.0 06:OVF            .00     .000 No_date    0:00
.00  n/a     .000
                SUM=     1.0 05:22           66.30     .445 No_date   12:19
20.30  n/a     .000
#-----------------|-----------------------------------------------------------|
```



```
#-----------------|----------25YR SCS---------------------------------------|



#-----------------|-----------------------------------------------------------|



R0001:C00092------------------------------------------------------------------------
----------------
     MASS STORM
      Filename = C:\SWMHYMO\Projects\119-2528 Alta Phase
II\2021.06.30\Craigleith_SC
      Comment  = 24 hour SCS II storm mass curve

      [SDT= 1.00:SDUR=  24.00:PTOT=  86.40]
#-----------------|-----------------------------------------------------------|



#-----------------|-----------PRE-DEVELOPMENT--------------------------------|



#-----------------|-----------------------------------------------------------|



#-----------------|-----------------OUTLET A---------------------------------|



#-----------------|-----------------------------------------------------------|



R0001:C00093------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 05:EXT-1          3.50     .365 No_date   12:15
34.27 .397     .000
      [CN= 73.0: N= 3.00: Tp=  .13]
R0001:C00094------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 02:EXT-2          4.10     .443 No_date   12:14
34.27 .397     .000
      [CN= 73.0: N= 3.00: Tp=  .12]
R0001:C00095------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
```

```
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 03:EXT-3          2.20     .230 No_date   12:15
34.27 .397     .000
      [CN= 73.0: N= 3.00: Tp=  .13]
R0001:C00096------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 04:INT-4          2.00     .275 No_date   12:12
34.27 .397     .000
      [CN= 73.0: N= 3.00: Tp=  .05]
R0001:C00097------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 06:INT-1          1.40     .114 No_date   12:22
39.61 .458     .000
      [CN= 76.8: N= 3.00: Tp=  .27]
#-----------------|-----------------------------------------------------------|

#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 800mm CULVERT-----|

#-----------------|-----------------------------------------------------------|

#-----------------|-----------------------------------------------------------|

R0001:C00098------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 05:EXT-1          3.50     .365 No_date   12:15
34.27  n/a     .000
                    +     1.0 02:EXT-2          4.10     .443 No_date   12:14
34.27  n/a     .000
                    +     1.0 03:EXT-3          2.20     .230 No_date   12:15
34.27  n/a     .000
                    +     1.0 04:INT-4          2.00     .275 No_date   12:12
34.27  n/a     .000
                    +     1.0 06:INT-1          1.40     .114 No_date   12:22
39.61  n/a     .000
                 SUM=     1.0 01:825mm         13.20    1.357 No_date   12:13
34.83  n/a     .000
#-----------------|-----------------------------------------------------------|
```



```
#-----------------|-----------------OUTLET B---------------------------------|

R0001:C00099------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 04:EXT-4          2.60     .271 No_date   12:15
34.27 .397     .000
      [CN= 73.0: N= 3.00: Tp=  .13]
R0001:C00100------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 05:INT-5           .90     .124 No_date   12:12
34.27 .397     .000
      [CN= 73.0: N= 3.00: Tp=  .05]
R0001:C00101------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 06:INT-2          5.80     .396 No_date   12:25
36.61 .424     .000
      [CN= 74.7: N= 3.00: Tp=  .31]
R0001:C00102------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 07:UNC-3          1.90     .231 No_date   12:12
31.56 .365     .000
      [CN= 69.7: N= 3.00: Tp=  .06]
#-----------------|-----------------------------------------------------------|

#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 900mm CULVERT     |

#-----------------|-----------------------------------------------------------|

#-----------------|-----------------------------------------------------------|

R0001:C00103------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 04:EXT-4          2.60     .271 No_date   12:15
34.27  n/a     .000
                    +     1.0 05:INT-5           .90     .124 No_date   12:12
34.27  n/a     .000
                    +     1.0 06:INT-2          5.80     .396 No_date   12:25
36.61  n/a     .000
```

```
                 +     1.0 07:UNC-3          1.90     .231 No_date   12:12
31.56  n/a     .000
               SUM=     1.0 02:900mm         11.20     .881 No_date   12:13
35.02  n/a     .000
#-----------------|------------------------------------------------------------|

#-----------------|-----------------OUTLET C---------------------------------|

R0001:C00104------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 05:EXT-5          5.20     .583 No_date   12:14
34.27 .397     .000
      [CN= 73.0: N= 3.00: Tp=  .11]
R0001:C00105------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 06:INT-6           .70     .096 No_date   12:12
34.27 .397     .000
      [CN= 73.0: N= 3.00: Tp=  .05]
R0001:C00106------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 07:INT-3          4.90     .290 No_date   12:30
36.91 .427     .000
      [CN= 74.8: N= 3.00: Tp=  .39]
R0001:C00107------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 08:UNC-4          3.20     .056 No_date   12:27
10.48 .121     .000
      [CN= 34.4: N= 3.00: Tp=  .32]
#-----------------|------------------------------------------------------------|

#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO OUTLET C--------------|

#-----------------|------------------------------------------------------------|

R0001:C00108------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 05:EXT-5          5.20     .583 No_date   12:14
34.27  n/a     .000
```



```
                 +     1.0 06:INT-6           .70     .096 No_date   12:12
34.27  n/a     .000
                 +     1.0 07:INT-3          4.90     .290 No_date   12:30
36.91  n/a     .000
                 +     1.0 08:UNC-4          3.20     .056 No_date   12:27
10.48  n/a     .000
               SUM=     1.0 03:OUTLET C      14.00     .885 No_date   12:14
29.76  n/a     .000
R0001:C00109------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 04:Ext-6          6.00     .327 No_date   12:30
34.27 .397     .000
      [CN= 73.0: N= 3.00: Tp=  .39]
#-----------------|------------------------------------------------------------|

R0001:C00110------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 09:Ext-7          6.00     .515 No_date   12:18
34.27 .397     .000
      [CN= 73.0: N= 3.00: Tp=  .19]
#-----------------|------------------------------------------------------------|

R0001:C00111------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 10:Ext-8         12.80     .754 No_date   12:31
37.36 .432     .000
      [CN= 75.2: N= 3.00: Tp=  .40]
#-----------------|------------------------------------------------------------|

#-----------------|------------------------------------------------------------|

#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE NE DITCH          |

#-----------------|------------------------------------------------------------|

#-----------------|------------------------------------------------------------|
```

```
R0001:C00112------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD              1.0 03:OUTLET C      14.00     .885 No_date   12:14
29.76  n/a     .000
                   +     1.0 04:Ext-6          6.00     .327 No_date   12:30
34.27  n/a     .000
                   +     1.0 09:Ext-7          6.00     .515 No_date   12:18
34.27  n/a     .000
                   +     1.0 10:Ext-8         12.80     .754 No_date   12:31
37.36  n/a     .000
                SUM=     1.0 06:NE_DITCH      38.80    2.165 No_date   12:19
33.66  n/a     .000
R0001:C00113------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD         1.0 04:Ext-9          7.00     .489 No_date   12:27
39.58 .458     .000
      [CN= 76.8: N= 3.00: Tp=  .34]
#-----------------|---------------------------------------------------------|

#-----------------|  THE ADD HYD BELOW MODELS Subwatershed 21A Outflow--------|

#-----------------|---------------------------------------------------------|

#-----------------|---------------------------------------------------------|

R0001:C00114------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD              1.0 06:NE_DITCH      38.80    2.165 No_date   12:19
33.66  n/a     .000
                   +     1.0 04:Ext-9          7.00     .489 No_date   12:27
39.58  n/a     .000
                SUM=     1.0 05:21A           45.80    2.614 No_date   12:21
34.56  n/a     .000
R0001:C00115------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD         1.0 04:Ext-10A       27.90    1.412 No_date   12:19
21.77 .252     .000
```



```
      [CN= 56.0: N= 3.00: Tp=  .20]
#-----------------|---------------------------------------------------------|

R0001:C00116------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD         1.0 03:Ext-11         3.90     .501 No_date   12:13
35.59 .412     .000
      [CN= 72.9: N= 3.00: Tp=  .08]
#-----------------|---------------------------------------------------------|

R0001:C00117------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD         1.0 06:Ext-12         5.20     .460 No_date   12:17
34.27 .397     .000
      [CN= 73.0: N= 3.00: Tp=  .18]
#-----------------|---------------------------------------------------------|

#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO EX. STORAGE AREA------|

#-----------------|---------------------------------------------------------|

#-----------------|---------------------------------------------------------|

R0001:C00118------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD              1.0 01:825mm         13.20    1.357 No_date   12:13
34.83  n/a     .000
                   +     1.0 02:900mm         11.20     .881 No_date   12:13
35.02  n/a     .000
                   +     1.0 04:Ext-10A       27.90    1.412 No_date   12:19
21.77  n/a     .000
                   +     1.0 03:Ext-11         3.90     .501 No_date   12:13
35.59  n/a     .000
                   +     1.0 06:Ext-12         5.20     .460 No_date   12:17
34.27  n/a     .000
                SUM=     1.0 05:WET-STO       61.40    4.407 No_date   12:14
```

```
28.93  n/a     .000
R0001:C00119------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 05:WET-STO       61.40    4.407 No_date   12:14
28.93  n/a     .000
                out <=    1.0 04:22            61.40     .400 No_date   13:45
28.93  n/a     .000
           overflow <=    1.0 06:OVF             .00     .000 No_date    0:00
.00  n/a     .000
     {MxStoUsed=.8359E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=
0.hrs}
R0001:C00120------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 03:Ext-10B        4.90     .275 No_date   12:17
22.10 .256     .000
      [CN= 54.6: N= 3.00: Tp=  .17]
#-----------------|-----------------------------------------------------------|


#-----------------|  THE ADD HYD BELOW MODELS SUBWATERSHED 22 OUTFLOW --------|


#-----------------|-----------------------------------------------------------|


#-----------------|-----------------------------------------------------------|


R0001:C00121------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 03:Ext-10B        4.90     .275 No_date   12:17
22.10  n/a     .000
                    +     1.0 04:22            61.40     .400 No_date   13:45
28.93  n/a     .000
                    +     1.0 06:OVF             .00     .000 No_date    0:00
.00  n/a     .000
                 SUM=     1.0 05:22            66.30     .565 No_date   12:19
28.43  n/a     .000
#-----------------|-----------------------------------------------------------|


#-----------------|----------50YR SCS----------------------------------------|
```



```
#-----------------|-----------------------------------------------------------|


R0001:C00122---------------------------------------------------------------------
----------------
     MASS STORM
      Filename = C:\SWMHYMO\Projects\119-2528 Alta Phase
II\2021.06.30\Craigleith_SC
      Comment  = 24 hour SCS II storm mass curve

      [SDT= 1.00:SDUR=  24.00:PTOT=  96.00]
#-----------------|-----------------------------------------------------------|


#-----------------|-----------PRE-DEVELOPMENT--------------------------------|


#-----------------|-----------------------------------------------------------|


#-----------------|-----------------OUTLET A---------------------------------|


#-----------------|-----------------------------------------------------------|


R0001:C00123------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 05:EXT-1          3.50     .439 No_date   12:15
41.10 .428     .000
      [CN= 73.0: N= 3.00: Tp=  .13]
R0001:C00124------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 02:EXT-2          4.10     .532 No_date   12:14
41.10 .428     .000
      [CN= 73.0: N= 3.00: Tp=  .12]
R0001:C00125------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 03:EXT-3          2.20     .276 No_date   12:15
41.10 .428     .000
```

```
      [CN= 73.0: N= 3.00: Tp=  .13]
R0001:C00126------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 04:INT-4          2.00     .328 No_date   12:12
41.10 .428     .000
      [CN= 73.0: N= 3.00: Tp=  .05]
R0001:C00127------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 06:INT-1          1.40     .135 No_date   12:22
46.99 .490     .000
      [CN= 76.8: N= 3.00: Tp=  .27]
#-----------------|-----------------------------------------------------------|

#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 800mm CULVERT-----|

#-----------------|-----------------------------------------------------------|

#-----------------|-----------------------------------------------------------|

R0001:C00128------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 05:EXT-1          3.50     .439 No_date   12:15
41.10  n/a     .000
                   +      1.0 02:EXT-2          4.10     .532 No_date   12:14
41.10  n/a     .000
                   +      1.0 03:EXT-3          2.20     .276 No_date   12:15
41.10  n/a     .000
                   +      1.0 04:INT-4          2.00     .328 No_date   12:12
41.10  n/a     .000
                   +      1.0 06:INT-1          1.40     .135 No_date   12:22
46.99  n/a     .000
                SUM=      1.0 01:825mm         13.20    1.631 No_date   12:13
41.73  n/a     .000
#-----------------|-----------------------------------------------------------|

#-----------------|-----------------OUTLET B---------------------------------|
```



```
R0001:C00129------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 04:EXT-4          2.60     .326 No_date   12:15
41.10 .428     .000
      [CN= 73.0: N= 3.00: Tp=  .13]
R0001:C00130------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 05:INT-5           .90     .148 No_date   12:12
41.10 .428     .000
      [CN= 73.0: N= 3.00: Tp=  .05]
R0001:C00131------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 06:INT-2          5.80     .475 No_date   12:25
43.70 .455     .000
      [CN= 74.7: N= 3.00: Tp=  .31]
R0001:C00132------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 07:UNC-3          1.90     .278 No_date   12:12
37.99 .396     .000
      [CN= 69.7: N= 3.00: Tp=  .06]
#-----------------|-----------------------------------------------------------|

#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 900mm CULVERT     |

#-----------------|-----------------------------------------------------------|

#-----------------|-----------------------------------------------------------|

R0001:C00133------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 04:EXT-4          2.60     .326 No_date   12:15
41.10  n/a     .000
                   +      1.0 05:INT-5           .90     .148 No_date   12:12
41.10  n/a     .000
                   +      1.0 06:INT-2          5.80     .475 No_date   12:25
43.70  n/a     .000
                   +      1.0 07:UNC-3          1.90     .278 No_date   12:12
37.99  n/a     .000
                SUM=      1.0 02:900mm         11.20    1.061 No_date   12:13
```

```
41.92  n/a     .000
#-----------------|----------------------------------------------------------|


#-----------------|-----------------OUTLET C---------------------------------|


R0001:C00134------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 05:EXT-5          5.20     .700 No_date   12:14
41.10 .428     .000
      [CN= 73.0: N= 3.00: Tp=  .11]
R0001:C00135------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 06:INT-6           .70     .115 No_date   12:12
41.10 .428     .000
      [CN= 73.0: N= 3.00: Tp=  .05]
R0001:C00136------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 07:INT-3          4.90     .347 No_date   12:30
44.02 .459     .000
      [CN= 74.8: N= 3.00: Tp=  .39]
R0001:C00137------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 08:UNC-4          3.20     .070 No_date   12:27
13.05 .136     .000
      [CN= 34.4: N= 3.00: Tp=  .32]
#-----------------|----------------------------------------------------------|


#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO OUTLET C--------------|


#-----------------|----------------------------------------------------------|


R0001:C00138------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 05:EXT-5          5.20     .700 No_date   12:14
41.10  n/a     .000
                    +     1.0 06:INT-6           .70     .115 No_date   12:12
41.10  n/a     .000
                    +     1.0 07:INT-3          4.90     .347 No_date   12:30
```



```
44.02  n/a     .000
                    +     1.0 08:UNC-4          3.20     .070 No_date   12:27
13.05  n/a     .000
                 SUM=     1.0 03:OUTLET C      14.00    1.067 No_date   12:14
35.71  n/a     .000
R0001:C00139------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 04:Ext-6          6.00     .395 No_date   12:30
41.10 .428     .000
      [CN= 73.0: N= 3.00: Tp=  .39]
#-----------------|----------------------------------------------------------|


R0001:C00140------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 09:Ext-7          6.00     .620 No_date   12:18
41.10 .428     .000
      [CN= 73.0: N= 3.00: Tp=  .19]
#-----------------|----------------------------------------------------------|


R0001:C00141------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 10:Ext-8         12.80     .903 No_date   12:31
44.52 .464     .000
      [CN= 75.2: N= 3.00: Tp=  .40]
#-----------------|----------------------------------------------------------|


#-----------------|----------------------------------------------------------|


#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE NE DITCH          |


#-----------------|----------------------------------------------------------|


#-----------------|----------------------------------------------------------|
```

```
R0001:C00142------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD              1.0 03:OUTLET C      14.00    1.067 No_date   12:14
35.71  n/a     .000
                   +     1.0 04:Ext-6          6.00     .395 No_date   12:30
41.10  n/a     .000
                   +     1.0 09:Ext-7          6.00     .620 No_date   12:18
41.10  n/a     .000
                   +     1.0 10:Ext-8         12.80     .903 No_date   12:31
44.52  n/a     .000
                 SUM=    1.0 06:NE_DITCH      38.80    2.611 No_date   12:19
40.28  n/a     .000
R0001:C00143------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD         1.0 04:Ext-9          7.00     .583 No_date   12:27
46.96 .489     .000
      [CN= 76.8: N= 3.00: Tp=  .34]
#-----------------|-----------------------------------------------------------|

#-----------------|  THE ADD HYD BELOW MODELS Subwatershed 21A Outflow--------|

#-----------------|-----------------------------------------------------------|

#-----------------|-----------------------------------------------------------|

R0001:C00144------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD              1.0 06:NE_DITCH      38.80    2.611 No_date   12:19
40.28  n/a     .000
                   +     1.0 04:Ext-9          7.00     .583 No_date   12:27
46.96  n/a     .000
                 SUM=    1.0 05:21A           45.80    3.145 No_date   12:21
41.30  n/a     .000
R0001:C00145------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD         1.0 04:Ext-10A       27.90    1.732 No_date   12:19
26.57 .277     .000
      [CN= 56.0: N= 3.00: Tp=  .20]
#-----------------|-----------------------------------------------------------|
```



```
R0001:C00146------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD         1.0 03:Ext-11         3.90     .597 No_date   12:13
42.48 .443     .000
      [CN= 72.9: N= 3.00: Tp=  .08]
#-----------------|-----------------------------------------------------------|

R0001:C00147------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD         1.0 06:Ext-12         5.20     .554 No_date   12:17
41.10 .428     .000
      [CN= 73.0: N= 3.00: Tp=  .18]
#-----------------|-----------------------------------------------------------|

#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO EX. STORAGE AREA------|

#-----------------|-----------------------------------------------------------|

#-----------------|-----------------------------------------------------------|

R0001:C00148------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD              1.0 01:825mm         13.20    1.631 No_date   12:13
41.73  n/a     .000
                   +     1.0 02:900mm         11.20    1.061 No_date   12:13
41.92  n/a     .000
                   +     1.0 04:Ext-10A       27.90    1.732 No_date   12:19
26.57  n/a     .000
                   +     1.0 03:Ext-11         3.90     .597 No_date   12:13
42.48  n/a     .000
                   +     1.0 06:Ext-12         5.20     .554 No_date   12:17
41.10  n/a     .000
                 SUM=    1.0 05:WET-STO       61.40    5.332 No_date   12:14
34.87  n/a     .000
R0001:C00149------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
```

```
    ROUTE RESERVOIR ->    1.0 05:WET-STO       61.40    5.332 No_date   12:14
34.87  n/a     .000
                out <=    1.0 04:22            61.40     .450 No_date   14:15
34.87  n/a     .000
           overflow <=    1.0 06:OVF             .00     .000 No_date    0:00
.00  n/a     .000
     {MxStoUsed=.1044E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=
0.hrs}
R0001:C00150------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 03:Ext-10B        4.90     .335 No_date   12:17
26.82 .279     .000
      [CN= 54.6: N= 3.00: Tp=  .17]
#-----------------|-----------------------------------------------------------|

#-----------------|  THE ADD HYD BELOW MODELS SUBWATERSHED 22 OUTFLOW --------|

#-----------------|-----------------------------------------------------------|

#-----------------|-----------------------------------------------------------|

R0001:C00151------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 03:Ext-10B        4.90     .335 No_date   12:17
26.82  n/a     .000
                    +     1.0 04:22            61.40     .450 No_date   14:15
34.87  n/a     .000
                    +     1.0 06:OVF             .00     .000 No_date    0:00
.00  n/a     .000
                 SUM=     1.0 05:22            66.30     .654 No_date   12:19
34.27  n/a     .000
#-----------------|-----------------------------------------------------------|

#-----------------|----------100YR SCS---------------------------------------|

#-----------------|-----------------------------------------------------------|
```



```
R0001:C00152-----------------------------------------------------------------------
----------------
     MASS STORM
      Filename = C:\SWMHYMO\Projects\119-2528 Alta Phase
II\2021.06.30\Craigleith_SC
      Comment  = 24 hour SCS II storm mass curve

      [SDT= 1.00:SDUR=  24.00:PTOT= 108.00]
#-----------------|-----------------------------------------------------------|

#-----------------|-----------PRE-DEVELOPMENT--------------------------------|

#-----------------|-----------------------------------------------------------|

#-----------------|-----------------OUTLET A---------------------------------|

#-----------------|-----------------------------------------------------------|

R0001:C00153------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 05:EXT-1          3.50     .535 No_date   12:15
50.04 .463     .000
      [CN= 73.0: N= 3.00: Tp=  .13]
R0001:C00154------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 02:EXT-2          4.10     .649 No_date   12:14
50.04 .463     .000
      [CN= 73.0: N= 3.00: Tp=  .12]
R0001:C00155------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 03:EXT-3          2.20     .336 No_date   12:15
50.04 .463     .000
      [CN= 73.0: N= 3.00: Tp=  .13]
R0001:C00156------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
```

```
 PRE_Craigleith_SCS24
    CALIB NASHYD          1.0 04:INT-4          2.00     .397 No_date   12:12
50.04 .463     .000
      [CN= 73.0: N= 3.00: Tp=  .05]
R0001:C00157------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 06:INT-1          1.40     .163 No_date   12:22
56.57 .524     .000
      [CN= 76.8: N= 3.00: Tp=  .27]
#-----------------|-----------------------------------------------------------|


#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 800mm CULVERT-----|


#-----------------|-----------------------------------------------------------|


#-----------------|-----------------------------------------------------------|


R0001:C00158------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 05:EXT-1          3.50     .535 No_date   12:15
50.04  n/a     .000
                    +     1.0 02:EXT-2          4.10     .649 No_date   12:14
50.04  n/a     .000
                    +     1.0 03:EXT-3          2.20     .336 No_date   12:15
50.04  n/a     .000
                    +     1.0 04:INT-4          2.00     .397 No_date   12:12
50.04  n/a     .000
                    +     1.0 06:INT-1          1.40     .163 No_date   12:22
56.57  n/a     .000
                  SUM=    1.0 01:825mm         13.20    1.987 No_date   12:13
50.73  n/a     .000
#-----------------|-----------------------------------------------------------|


#-----------------|-----------------OUTLET B---------------------------------|


R0001:C00159------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
```



```
 PRE_Craigleith_SCS24
    CALIB NASHYD          1.0 04:EXT-4          2.60     .397 No_date   12:15
50.04 .463     .000
      [CN= 73.0: N= 3.00: Tp=  .13]
R0001:C00160------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 05:INT-5           .90     .179 No_date   12:12
50.04 .463     .000
      [CN= 73.0: N= 3.00: Tp=  .05]
R0001:C00161------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 06:INT-2          5.80     .578 No_date   12:25
52.92 .490     .000
      [CN= 74.7: N= 3.00: Tp=  .31]
R0001:C00162------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 07:UNC-3          1.90     .339 No_date   12:12
46.43 .430     .000
      [CN= 69.7: N= 3.00: Tp=  .06]
#-----------------|-----------------------------------------------------------|


#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 900mm CULVERT     |


#-----------------|-----------------------------------------------------------|


#-----------------|-----------------------------------------------------------|


R0001:C00163------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 04:EXT-4          2.60     .397 No_date   12:15
50.04  n/a     .000
                    +     1.0 05:INT-5           .90     .179 No_date   12:12
50.04  n/a     .000
                    +     1.0 06:INT-2          5.80     .578 No_date   12:25
52.92  n/a     .000
                    +     1.0 07:UNC-3          1.90     .339 No_date   12:12
46.43  n/a     .000
                  SUM=    1.0 02:900mm         11.20    1.297 No_date   12:13
50.92  n/a     .000
#-----------------|-----------------------------------------------------------|
```

```
#-----------------|-----------------OUTLET C---------------------------------|



R0001:C00164------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 05:EXT-5          5.20     .853 No_date   12:14
50.04 .463     .000
      [CN= 73.0: N= 3.00: Tp=  .11]
R0001:C00165------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 06:INT-6           .70     .139 No_date   12:12
50.04 .463     .000
      [CN= 73.0: N= 3.00: Tp=  .05]
R0001:C00166------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 07:INT-3          4.90     .422 No_date   12:30
53.27 .493     .000
      [CN= 74.8: N= 3.00: Tp=  .39]
R0001:C00167------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 08:UNC-4          3.20     .089 No_date   12:26
16.58 .154     .000
      [CN= 34.4: N= 3.00: Tp=  .32]
#-----------------|-----------------------------------------------------------|



#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO OUTLET C--------------|



#-----------------|-----------------------------------------------------------|



R0001:C00168------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 05:EXT-5          5.20     .853 No_date   12:14
50.04  n/a     .000
                    +     1.0 06:INT-6           .70     .139 No_date   12:12
50.04  n/a     .000
                    +     1.0 07:INT-3          4.90     .422 No_date   12:30
53.27  n/a     .000
                    +     1.0 08:UNC-4          3.20     .089 No_date   12:26
16.58  n/a     .000
```



```
                 SUM=     1.0 03:OUTLET C      14.00    1.305 No_date   12:14
43.52  n/a     .000
R0001:C00169------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 04:Ext-6          6.00     .484 No_date   12:30
50.04 .463     .000
      [CN= 73.0: N= 3.00: Tp=  .39]
#-----------------|-----------------------------------------------------------|



R0001:C00170------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 09:Ext-7          6.00     .758 No_date   12:18
50.04 .463     .000
      [CN= 73.0: N= 3.00: Tp=  .19]
#-----------------|-----------------------------------------------------------|



R0001:C00171------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 10:Ext-8         12.80    1.097 No_date   12:30
53.83 .498     .000
      [CN= 75.2: N= 3.00: Tp=  .40]
#-----------------|-----------------------------------------------------------|



#-----------------|-----------------------------------------------------------|



#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE NE DITCH          |



#-----------------|-----------------------------------------------------------|



#-----------------|-----------------------------------------------------------|



R0001:C00172------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 03:OUTLET C      14.00    1.305 No_date   12:14
```

```
43.52  n/a     .000
                    +     1.0 04:Ext-6          6.00     .484 No_date   12:30
50.04  n/a     .000
                    +     1.0 09:Ext-7          6.00     .758 No_date   12:18
50.04  n/a     .000
                    +     1.0 10:Ext-8         12.80    1.097 No_date   12:30
53.83  n/a     .000
                 SUM=     1.0 06:NE_DITCH      38.80    3.195 No_date   12:19
48.94  n/a     .000
R0001:C00173------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 04:Ext-9          7.00     .705 No_date   12:26
56.54 .523     .000
      [CN= 76.8: N= 3.00: Tp=  .34]
#-----------------|-----------------------------------------------------------|

#-----------------|  THE ADD HYD BELOW MODELS Subwatershed 21A Outflow--------|

#-----------------|-----------------------------------------------------------|

#-----------------|-----------------------------------------------------------|

R0001:C00174------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 06:NE_DITCH      38.80    3.195 No_date   12:19
48.94  n/a     .000
                    +     1.0 04:Ext-9          7.00     .705 No_date   12:26
56.54  n/a     .000
                 SUM=     1.0 05:21A           45.80    3.839 No_date   12:20
50.10  n/a     .000
R0001:C00175------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 04:Ext-10A       27.90    2.161 No_date   12:19
32.99 .305     .000
      [CN= 56.0: N= 3.00: Tp=  .20]
#-----------------|-----------------------------------------------------------|

R0001:C00176------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
```



```
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 03:Ext-11         3.90     .722 No_date   12:13
51.47 .477     .000
      [CN= 72.9: N= 3.00: Tp=  .08]
#-----------------|-----------------------------------------------------------|

R0001:C00177------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 06:Ext-12         5.20     .677 No_date   12:17
50.04 .463     .000
      [CN= 73.0: N= 3.00: Tp=  .18]
#-----------------|-----------------------------------------------------------|

#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO EX. STORAGE AREA------|

#-----------------|-----------------------------------------------------------|

#-----------------|-----------------------------------------------------------|

R0001:C00178------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 01:825mm         13.20    1.987 No_date   12:13
50.73  n/a     .000
                    +     1.0 02:900mm         11.20    1.297 No_date   12:13
50.92  n/a     .000
                    +     1.0 04:Ext-10A       27.90    2.161 No_date   12:19
32.99  n/a     .000
                    +     1.0 03:Ext-11         3.90     .722 No_date   12:13
51.47  n/a     .000
                    +     1.0 06:Ext-12         5.20     .677 No_date   12:17
50.04  n/a     .000
                 SUM=     1.0 05:WET-STO       61.40    6.549 No_date   12:14
42.69  n/a     .000
R0001:C00179------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 05:WET-STO       61.40    6.549 No_date   12:14
42.69  n/a     .000
                out <=    1.0 04:22            61.40     .488 No_date   14:20
```

```
42.69  n/a     .000
           overflow <=    1.0 06:OVF             .00     .000 No_date    0:00
.00  n/a     .000
     {MxStoUsed=.1340E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=
0.hrs}
R0001:C00180------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 03:Ext-10B        4.90     .415 No_date   12:17
33.14 .307     .000
      [CN= 54.6: N= 3.00: Tp=  .17]
#-----------------|------------------------------------------------------------|



#-----------------|  THE ADD HYD BELOW MODELS SUBWATERSHED 22 OUTFLOW --------|



#-----------------|------------------------------------------------------------|



#-----------------|------------------------------------------------------------|



R0001:C00181------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 03:Ext-10B        4.90     .415 No_date   12:17
33.14  n/a     .000
                    +     1.0 04:22            61.40     .488 No_date   14:20
42.69  n/a     .000
                    +     1.0 06:OVF             .00     .000 No_date    0:00
.00  n/a     .000
                 SUM=     1.0 05:22            66.30     .771 No_date   12:19
41.99  n/a     .000
R0001:C00182-----------------------------------------------------------------------
----------------
    FINISH
-----------------------------------------------------------------------------------
----------------
***********************************************************************************
****************
     WARNINGS / ERRORS / NOTES
     -------------------------
   Simulation ended on 2021-06-30     at 12:19:12
===================================================================================
================
```

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

 SSSSS   W   W   M   M   H   H   Y   Y   M   M    OOO         222     000    11
77777 ========
 S       W W W   MM MM   H   H    Y Y    MM MM   O   O          2    0   0   11
7   7
 SSSSS   W W W   M M M   HHHHH     Y     M M M   O   O          2    0   0   11
   7 Ver4.05.0
     S    W W    M   M   H   H     Y     M   M   O   O       222     0   0   11
  7  APR 2017
 SSSSS    W W    M   M   H   H     Y     M   M    OOO        2       0   0   11
 7   ========
                                                             2       0   0   11
7    # 3737016
       StormWater Management HYdrologic Model                 222     000    11
7    ========

********************************************************************************
***************
 *************************************  SWMHYMO Ver4.05.0
***************************************
 ******************  A single event and continuous hydrologic simulation model
*******************
 ******************     based on the principles of HYMO and its successors
*******************
 ******************                 OTTHYMO-83 and OTTHYMO-89.
*******************

********************************************************************************
***************
 ****************** Distributed by:  J.F. Sabourin and Associates Inc.
*******************
 ******************                  Ottawa,  Ontario: (613) 836-3884
*******************
 ******************                  Gatineau, Quebec: (819) 243-6858
*******************
 ******************                  E-Mail: swmhymo@jfsa.com
*******************

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


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
+++++++++++++++
```



```
 ++++++++++++++++++ Licensed user: C.F. Crozier & Associates Inc.
+++++++++++++++++++
 ++++++++++++++++++                Collingwood           SERIAL#:3737016
+++++++++++++++++++

++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
+++++++++++++++


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

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


 ********************************   S U M M A R Y   O U T P U T
*********************************

********************************************************************************
***************
 *                 RUN DATE: 2021-06-30     TIME: 12:19:34     RUN COUNTER: 000006
             *

********************************************************************************
***************
 * Input   file: C:\SWMHYMO\Projects\119-2528 Alta Phase
II\2021.06.30\Timmins\PRE_Timmins.Dat    *
 * Output  file: C:\SWMHYMO\Projects\119-2528 Alta Phase
II\2021.06.30\Timmins\PRE_Timmins.out    *
 * Summary file: C:\SWMHYMO\Projects\119-2528 Alta Phase
II\2021.06.30\Timmins\PRE_Timmins.sum    *
 * User comments:
             *
 *
1:_______________________________________________________________________________
____________*
 *
2:_______________________________________________________________________________
____________*
```

```
 *
3:_______________________________________________________________________________
____________*

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

#*****************************************************************************

#  Project Name: [ALTA PHASE II]    Project Number: [119-2528]

#  Date        : 2021.06.30

#  Modified    : 2021.06.30

#  Modeller    : [Z. Holland]

#  Company     : C.F. Crozier & Associates Inc.

#  License #   : 3737016

#*****************************************************************************

 RUN#:COMMAND#
R0001:C00001---------------------------------------------------------------------
----------------
     START
      [TZERO =    .00 hrs on        0]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   0 ]
      [NRUN  = 0001 ]
```



```
#-----------------|----------TIMMINS----------------------------------------|

#-----------------|---------------------------------------------------------|

R0001:C00002---------------------------------------------------------------------
----------------
     READ STORM
      Filename = tim.stm

      Comment  = Timmins Storm Event

      [SDT=60.00:SDUR=  12.00:PTOT= 193.00]
#-----------------|---------------------------------------------------------|

#-----------------|-----------PRE-DEVELOPMENT-------------------------------|

#-----------------|---------------------------------------------------------|

#-----------------|----------------OUTLET A---------------------------------|

#-----------------|---------------------------------------------------------|

R0001:C00003------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 05:EXT-1          3.50     .318 No_date    7:00
120.92 .627     .000
      [CN= 73.0: N= 3.00: Tp=  .13]
R0001:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 02:EXT-2          4.10     .373 No_date    7:00
120.92 .627     .000
      [CN= 73.0: N= 3.00: Tp=  .12]
R0001:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
```

```
    CALIB NASHYD          1.0 03:EXT-3          2.20     .200 No_date    7:00
120.92 .627     .000
      [CN= 73.0: N= 3.00: Tp=  .13]
R0001:C00006-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 04:INT-4          2.00     .185 No_date    7:00
120.92 .627     .000
      [CN= 73.0: N= 3.00: Tp=  .05]
R0001:C00007-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 06:INT-1          1.40     .131 No_date    7:02
130.75 .677     .000
      [CN= 76.8: N= 3.00: Tp=  .27]
#-----------------|------------------------------------------------------------|

#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 800mm CULVERT-----|

#-----------------|------------------------------------------------------------|

#-----------------|------------------------------------------------------------|

R0001:C00008-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 05:EXT-1          3.50     .318 No_date    7:00
120.92  n/a     .000
                    +     1.0 02:EXT-2          4.10     .373 No_date    7:00
120.92  n/a     .000
                    +     1.0 03:EXT-3          2.20     .200 No_date    7:00
120.92  n/a     .000
                    +     1.0 04:INT-4          2.00     .185 No_date    7:00
120.92  n/a     .000
                    +     1.0 06:INT-1          1.40     .131 No_date    7:02
130.75  n/a     .000
                 SUM=     1.0 01:825mm         13.20    1.206 No_date    7:00
121.97  n/a     .000
#-----------------|------------------------------------------------------------|

#-----------------|-----------------OUTLET B---------------------------------|
```



```
R0001:C00009-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 04:EXT-4          2.60     .236 No_date    7:00
120.92 .627     .000
      [CN= 73.0: N= 3.00: Tp=  .13]
R0001:C00010-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 05:INT-5           .90     .083 No_date    7:00
120.92 .627     .000
      [CN= 73.0: N= 3.00: Tp=  .05]
R0001:C00011-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 06:INT-2          5.80     .514 No_date    7:04
125.33 .649     .000
      [CN= 74.7: N= 3.00: Tp=  .31]
R0001:C00012-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 07:UNC-3          1.90     .166 No_date    7:00
114.55 .594     .000
      [CN= 69.7: N= 3.00: Tp=  .06]
#-----------------|------------------------------------------------------------|

#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 900mm CULVERT     |

#-----------------|------------------------------------------------------------|

#-----------------|------------------------------------------------------------|

R0001:C00013-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 04:EXT-4          2.60     .236 No_date    7:00
120.92  n/a     .000
                    +     1.0 05:INT-5           .90     .083 No_date    7:00
120.92  n/a     .000
                    +     1.0 06:INT-2          5.80     .514 No_date    7:04
125.33  n/a     .000
                    +     1.0 07:UNC-3          1.90     .166 No_date    7:00
```

```
 PRE_Timmins
114.55  n/a     .000
                 SUM=     1.0 02:900mm         11.20     .995 No_date    7:00
122.12  n/a     .000
#-----------------|-----------------------------------------------------------|



#-----------------|-----------------OUTLET C----------------------------------|



R0001:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 05:EXT-5          5.20     .474 No_date    7:00
120.92 .627     .000
      [CN= 73.0: N= 3.00: Tp=  .11]
R0001:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 06:INT-6           .70     .065 No_date    7:00
120.92 .627     .000
      [CN= 73.0: N= 3.00: Tp=  .05]
R0001:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 07:INT-3          4.90     .418 No_date    7:06
125.78 .652     .000
      [CN= 74.8: N= 3.00: Tp=  .39]
R0001:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 08:UNC-4          3.20     .107 No_date    7:06
50.32 .261     .000
      [CN= 34.4: N= 3.00: Tp=  .32]
#-----------------|-----------------------------------------------------------|



#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO OUTLET C--------------|



#-----------------|-----------------------------------------------------------|



R0001:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 05:EXT-5          5.20     .474 No_date    7:00
120.92  n/a     .000
                    +     1.0 06:INT-6           .70     .065 No_date    7:00
```


```
 PRE_Timmins
120.92  n/a     .000
                    +     1.0 07:INT-3          4.90     .418 No_date    7:06
125.78  n/a     .000
                    +     1.0 08:UNC-4          3.20     .107 No_date    7:06
50.32  n/a     .000
                 SUM=     1.0 03:OUTLET C      14.00    1.052 No_date    7:00
106.48  n/a     .000
R0001:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 04:Ext-6          6.00     .494 No_date    7:07
120.92 .627     .000
      [CN= 73.0: N= 3.00: Tp=  .39]
#-----------------|-----------------------------------------------------------|



R0001:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 09:Ext-7          6.00     .537 No_date    7:01
120.92 .627     .000
      [CN= 73.0: N= 3.00: Tp=  .19]
#-----------------|-----------------------------------------------------------|



R0001:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 10:Ext-8         12.80    1.094 No_date    7:07
126.67 .656     .000
      [CN= 75.2: N= 3.00: Tp=  .40]
#-----------------|-----------------------------------------------------------|



#-----------------|-----------------------------------------------------------|



#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE NE DITCH          |



#-----------------|-----------------------------------------------------------|



#-----------------|-----------------------------------------------------------|
```

```
R0001:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD              1.0 03:OUTLET C      14.00    1.052 No_date    7:00
106.48  n/a     .000
                   +     1.0 04:Ext-6          6.00     .494 No_date    7:07
120.92  n/a     .000
                   +     1.0 09:Ext-7          6.00     .537 No_date    7:01
120.92  n/a     .000
                   +     1.0 10:Ext-8         12.80    1.094 No_date    7:07
126.67  n/a     .000
                SUM=     1.0 06:NE_DITCH      38.80    3.149 No_date    7:01
117.61  n/a     .000
R0001:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD         1.0 04:Ext-9          7.00     .636 No_date    7:04
130.71 .677     .000
      [CN= 76.8: N= 3.00: Tp=  .34]
#------------------|------------------------------------------------------------|

#------------------|  THE ADD HYD BELOW MODELS Subwatershed 21A Outflow--------|

#------------------|------------------------------------------------------------|

#------------------|------------------------------------------------------------|

R0001:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD              1.0 06:NE_DITCH      38.80    3.149 No_date    7:01
117.61  n/a     .000
                   +     1.0 04:Ext-9          7.00     .636 No_date    7:04
130.71  n/a     .000
                SUM=     1.0 05:21A           45.80    3.781 No_date    7:02
119.61  n/a     .000
R0001:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD         1.0 04:Ext-10A       27.90    1.802 No_date    7:02
88.48 .458     .000
      [CN= 56.0: N= 3.00: Tp=  .20]
```



```
#------------------|------------------------------------------------------------|

R0001:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD         1.0 03:Ext-11         3.90     .359 No_date    7:00
122.52 .635     .000
      [CN= 72.9: N= 3.00: Tp=  .08]
#------------------|------------------------------------------------------------|

R0001:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD         1.0 06:Ext-12         5.20     .467 No_date    7:01
120.92 .627     .000
      [CN= 73.0: N= 3.00: Tp=  .18]
#------------------|------------------------------------------------------------|

#------------------|  THE ADD HYD BELOW MODELS FLOW INTO EX. STORAGE AREA------|

#------------------|------------------------------------------------------------|

#------------------|------------------------------------------------------------|

R0001:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD              1.0 01:825mm         13.20    1.206 No_date    7:00
121.97  n/a     .000
                   +     1.0 02:900mm         11.20     .995 No_date    7:00
122.12  n/a     .000
                   +     1.0 04:Ext-10A       27.90    1.802 No_date    7:02
88.48  n/a     .000
                   +     1.0 03:Ext-11         3.90     .359 No_date    7:00
122.52  n/a     .000
                   +     1.0 06:Ext-12         5.20     .467 No_date    7:01
120.92  n/a     .000
                SUM=     1.0 05:WET-STO       61.40    4.822 No_date    7:00
106.73  n/a     .000
```

```
R0001:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 05:WET-STO       61.40    4.822 No_date    7:00
106.73  n/a     .000
                out <=    1.0 04:22            55.85     .934 No_date    9:28
106.73  n/a     .000
           overflow <=    1.0 06:OVF            5.55     .955 No_date    9:28
106.73  n/a     .000
     {MxStoUsed=.3689E+01  m3, TotOvfVol=.5921E+00  m3, N-Ovf=    2, TotDurOvf=
3.hrs}
R0001:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 03:Ext-10B        4.90     .315 No_date    7:01
87.71 .454     .000
      [CN= 54.6: N= 3.00: Tp=  .17]
#-----------------|---------------------------------------------------------|


#-----------------|  THE ADD HYD BELOW MODELS SUBWATERSHED 22 OUTFLOW --------|


#-----------------|---------------------------------------------------------|


#-----------------|---------------------------------------------------------|


R0001:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 03:Ext-10B        4.90     .315 No_date    7:01
87.71  n/a     .000
                    +     1.0 04:22            55.85     .934 No_date    9:28
106.73  n/a     .000
                    +     1.0 06:OVF            5.55     .955 No_date    9:28
106.73  n/a     .000
                 SUM=     1.0 05:22            66.30    2.015 No_date    9:28
105.32  n/a     .000
R0001:C00032--------------------------------------------------------------------
----------------
    FINISH
--------------------------------------------------------------------------------
----------------
********************************************************************************
****************
```



```
    WARNINGS / ERRORS / NOTES
    -------------------------
  Simulation ended on 2021-06-30     at 12:19:35
================================================================================
================
```

```
02     Metric units
*#*************************************************************************
*#  Project Name: [ALTA PHASE-II]    Project Number: [119-2528]
*#  Date        : 2021.06.30
*#  Modified    : 2021.06.30
*#  Modeller    : [Z. Holland]
*#  Company     : C.F. Crozier & Associates Inc.
*#  License #   : 3737016
*#*************************************************************************
START                TZERO=[0.0],  METOUT=[2],  NSTORM=[0],  NRUN=[0]
*%                    [  ] <--storm filename, one per line for NSTORM time
*#-----------------|-----------------------------------------------------------|
*#-----------------|----------25mm---------------------------------------------|
*#-----------------|-----------------------------------------------------------|
READ STORM           STORM_FILENAME=["25mm.stm"]
*%-----------------|-----------------------------------------------------------|
*#-----------------|-----------------------------------------------------------|
*#-----------------|-----------------POST-DEVELOPMENT--------------------------|
*#-----------------|-----------------------------------------------------------|
*#-----------------|---------------------OUTLET A------------------------------|
*#-----------------|-----------------------------------------------------------|
CALIB NASHYD         ID=[2], NHYD=["EXT-1"], DT=[1]min, AREA=[3.5](ha),
                     DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                     N=[3], TP=[0.13]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-----------------------------------------------------------|
CALIB NASHYD         ID=[3], NHYD=["INT-3"], DT=[1]min, AREA=[0.2](ha),
                     DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                     N=[3], TP=[0.05]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-----------------------------------------------------------|
CALIB NASHYD         ID=[4], NHYD=["UNC-1"], DT=[1]min, AREA=[0.8](ha),
                     DWF=[0](cms),  CN/C=[82], IA=[4.52](mm),
                     N=[3], TP=[0.28]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-----------------------------------------------------------|
*#-----------------|-----------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 825mm CULVERT      |
*#-----------------|-----------------------------------------------------------|
ADD HYD              IDsum=[1], NHYD=["825mm"], IDs to add=[2,3,4]
*#-----------------|-----------------------------------------------------------|
*#-----------------|-----------------------------------------------------------|
*#-----------------|-----------OUTLET B----------------------------------------|
*#-----------------|-----------------------------------------------------------|
CALIB NASHYD         ID=[5], NHYD=["EXT-2"], DT=[1]min, AREA=[4.1](ha),
                     DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                     N=[3], TP=[0.12]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-----------------------------------------------------------|
CALIB NASHYD         ID=[8], NHYD=["EXT-3"], DT=[1]min, AREA=[2.2](ha),
                     DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                     N=[3], TP=[0.13]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-----------------------------------------------------------|
CALIB STANDHYD       ID=[6], NHYD=["INT-2"], DT=[1](min), AREA=[3](ha),
                     XIMP=[0.15], TIMP=[0.31], DWF=[0](cms), LOSS=[2],
                     SCS curve number CN=[79],
                     Pervious   surfaces: IAper=[5](mm), SLPP=[2](%),
                                          LGP=[65](m), MNP=[0.25], SCP=[0](min),
                     Impervious surfaces: IAimp=[2](mm), SLPI=[0.5](%),
                                          LGI=[141](m), MNI=[0.013], SCI=[0](min),
                     RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|-----------------------------------------------------------|
CALIB NASHYD         ID=[7], NHYD=["INT-4"], DT=[1]min, AREA=[0.6](ha),
                     DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                     N=[3], TP=[0.05]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-----------------------------------------------------------|
CALIB STANDHYD       ID=[9], NHYD=["INT-1"], DT=[1](min), AREA=[8.6](ha),
                     XIMP=[0.168], TIMP=[0.431], DWF=[0](cms), LOSS=[2],
                     SCS curve number CN=[79],
                     Pervious   surfaces: IAper=[5](mm), SLPP=[2](%),
                                          LGP=[65](m), MNP=[0.25], SCP=[0](min),
                     Impervious surfaces: IAimp=[2](mm), SLPI=[0.5](%),
                                          LGI=[245](m), MNI=[0.013], SCI=[0](min),
                     RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|-----------------------------------------------------------|
*#-----------------|-----------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE SWMF---------------|
*#-----------------|-----------------------------------------------------------|
*#-----------------|-----------------------------------------------------------|
ADD HYD              IDsum=[4], NHYD=["POOL1INT"], IDs to add=[5,8,6,7,9]
*#-----------------|-----------------------------------------------------------|
CALIB STANDHYD       ID=[2], NHYD=["SWMF"], DT=[1](min), AREA=[0.8](ha),
                     XIMP=[0.5], TIMP=[0.5], DWF=[0](cms), LOSS=[2],
                     SCS curve number CN=[79],
                     Pervious   surfaces: IAper=[5](mm), SLPP=[2](%),
                                          LGP=[20](m), MNP=[0.25], SCP=[0](min),
                     Impervious surfaces: IAimp=[2](mm), SLPI=[2](%),
                                          LGI=[64](m), MNI=[0.013], SCI=[0](min),
                     RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|-----------------------------------------------------------|
ADD HYD              IDsum=[3], NHYD=["POOL1"], IDs to add=[4,2]
*#-----------------|-----------------------------------------------------------|
*#-----------------|-----------------------------------------------------------|
ROUTE RESERVOIR      IDout=[6],   NHYD=["POOL"],  IDin=[3],
                     RDT=[1](min),
                           TABLE of ( OUTFLOW-STORAGE ) values
                                       (cms) - (ha-m)
                                     [ 0.0 ,    0.0]
                                     [ 0.012,  0.126]
                                     [ 0.024,  0.377]
                                     [ 0.026,  0.440]
                                     [ 0.038,  0.480]
                                     [ 0.086,  0.564]
                                     [ 0.151,  0.652]
                                     [ 0.231,  0.743]
                                     [ 0.372,  0.887]
                                     [ 0.850,  1.319]
                                     [ 0.953,  1.360]
                                     [   -1  ,  -1  ]  (max twenty pts)
                           IDovf=[7], NHYDovf=["OVF1"]
*#-----------------|-----------------------------------------------------------|
CALIB STANDHYD       ID=[10], NHYD=["UNC-2"], DT=[1](min), AREA=[1.5](ha),
                     XIMP=[0.075], TIMP=[0.221], DWF=[0](cms), LOSS=[2],
                     SCS curve number CN=[79],
                     Pervious   surfaces: IAper=[5](mm), SLPP=[2](%),
                                          LGP=[65](m), MNP=[0.25], SCP=[0](min),
                     Impervious surfaces: IAimp=[2](mm), SLPI=[0.5](%),
                                          LGI=[100](m), MNI=[0.013], SCI=[0](min),
                     RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|-----------------------------------------------------------|
CALIB NASHYD         ID=[4], NHYD=["UNC-3"], DT=[1]min, AREA=[2.0](ha),
                     DWF=[0](cms),  CN/C=[75.3], IA=[8.61](mm),
                     N=[3], TP=[0.05]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-----------------------------------------------------------|
*#-----------------|-----------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 900mm CULVERT-----|
*#-----------------|-----------------------------------------------------------|
ADD HYD              IDsum=[2], NHYD=["900mm"], IDs to add=[4,6,7,10]
*#-----------------|-----------------------------------------------------------|
*#-----------------|-----------------------------------------------------------|
*#-----------------|-----------OUTLET C----------------------------------------|
*#-----------------|-----------------------------------------------------------|
CALIB NASHYD         ID=[4], NHYD=["EXT-4"], DT=[1]min, AREA=[3.1](ha),
                     DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                     N=[3], TP=[0.13]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-----------------------------------------------------------|
CALIB NASHYD         ID=[5], NHYD=["EXT-5"], DT=[1]min, AREA=[5.2](ha),
                     DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                     N=[3], TP=[0.11]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-----------------------------------------------------------|
CALIB NASHYD         ID=[8], NHYD=["INT-5"], DT=[1]min, AREA=[0.1](ha),
                     DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                     N=[3], TP=[0.05]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-----------------------------------------------------------|
*#-----------------|-----------------------------------------------------------|
*#-----------------|-------THE ADD HYD MODELS FLOW TO WC21A--------------------|
*#-----------------|-----------------------------------------------------------|
ADD HYD              IDsum=[6], NHYD=["EXT4_5"], IDs to add=[4,5,8]
*#-----------------|-----------------------------------------------------------|
ROUTE CHANNEL        IDout=[5], NHYD=["WC21A"], IDin=[6],
                     RDT=[1](min),
                     CHLGTH=[730](m),  CHSLOPE=[5.5](%),
                                         FPSLOPE=[5.5](%),
                     SECNUM=[1.1],       NSEG=[3]
                     ( SEGROUGH, SEGDIST (m))=[0.07,4.8 -0.07,19.0 0.07,41] NSEG times
                     ( DISTANCE (m), ELEVATION (m))=[0,220]
                                                    [4.8,217.5]
                                                    [19.0,215]
                                                    [34,217.5]
                                                    [41,220]
*#-----------------|-----------------------------------------------------------|
CALIB NASHYD         ID=[4], NHYD=["UNC-4"], DT=[1]min, AREA=[3.1](ha),
                     DWF=[0](cms),  CN/C=[37.0], IA=[8.97](mm),
                     N=[3], TP=[0.30]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-----------------------------------------------------------|
*#-----------------|-------THE ADD HYD MODELS FLOW TO WC21A AT SITE------------|
*#-----------------|-----------------------------------------------------------|
ADD HYD              IDsum=[3], NHYD=["EXT_UNC"], IDs to add=[5,4]
*#-----------------|-----------------------------------------------------------|
*#-----------------|-----------------------------------------------------------|
CALIB NASHYD         ID=[7], NHYD=["Ext-6"], DT=[1]min, AREA=[6.0](ha),
                     DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                     N=[3], TP=[0.39]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-----------------------------------------------------------|
CALIB NASHYD         ID=[9], NHYD=["Ext-7"], DT=[1]min, AREA=[6.0](ha),
                     DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                     N=[3], TP=[0.19]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-----------------------------------------------------------|
CALIB NASHYD         ID=[10], NHYD=["Ext-8"], DT=[1]min, AREA=[13.1](ha),
                     DWF=[0](cms),  CN/C=[75.2], IA=[8.74](mm),
                     N=[3], TP=[0.40]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-----------------------------------------------------------|
*#-----------------|-----------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS SUBWATERSHED FLOW---------------|
*#-----------------|-----------------------------------------------------------|
ADD HYD              IDsum=[4], NHYD=["NE_DITCH"], IDs to add=[7,3,9,10]
*#-----------------|-----------------------------------------------------------|
CALIB NASHYD         ID=[6], NHYD=["Ext-9"], DT=[1]min, AREA=[7.0](ha),
                     DWF=[0](cms),  CN/C=[76.8], IA=[8.06](mm),
                     N=[3], TP=[0.34]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-----------------------------------------------------------|
*#-----------------|-----------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS Subwatershed 21A Outflow--------|
*#-----------------|-----------------------------------------------------------|
*#-----------------|-----------------------------------------------------------|
ADD HYD              IDsum=[5], NHYD=["21A"], IDs to add=[4,6]
*#-----------------|-----------------------------------------------------------|
CALIB NASHYD         ID=[4], NHYD=["Ext-10A"], DT=[1]min, AREA=[27.9](ha),
                     DWF=[0](cms),  CN/C=[56.0], IA=[8.70](mm),
                     N=[3], TP=[0.20]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-----------------------------------------------------------|
CALIB NASHYD         ID=[3], NHYD=["Ext-11"], DT=[1]min, AREA=[3.9](ha),
                     DWF=[0](cms),  CN/C=[72.9], IA=[7.96](mm),
                     N=[3], TP=[0.08]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-----------------------------------------------------------|
CALIB NASHYD         ID=[6], NHYD=["Ext-12"], DT=[1]min, AREA=[5.2](ha),
                     DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                     N=[3], TP=[0.18]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-----------------------------------------------------------|
*#-----------------|-----------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO EX. STORAGE AREA------|
*#-----------------|-----------------------------------------------------------|
*#-----------------|-----------------------------------------------------------|
ADD HYD              IDsum=[5], NHYD=["WET-STO"], IDs to add=[1,2,4,3,6]
*#-----------------|-----------------------------------------------------------|
ROUTE RESERVOIR      IDout=[4],   NHYD=["22"],  IDin=[5],
                     RDT=[1](min),
                           TABLE of ( OUTFLOW-STORAGE ) values
                                       (cms) - (ha-m)
                                     [   0.0 ,  0.0 ]
                                     [   0.0102 ,  0.002 ]
                                     [   0.04230 ,  0.004 ]
                                     [   0.0939 ,  0.006 ]
                                     [   0.1286 ,  0.008 ]
                                     [   0.16330 ,  0.045 ]
                                     [   0.2489 ,  0.262 ]
                                     [   0.3488 ,  0.622 ]
                                     [   0.4601 ,  1.088 ]
                                     [   0.51955 ,  1.623 ]
                                     [   0.579 ,  1.925 ]
                                     [   0.7014 ,  2.253 ]
                                     [   0.8216 ,  2.951 ]
                                     [   0.9345 ,  3.689 ]
                                     [   -1  ,  -1  ]  (max twenty pts)
                           IDovf=[6], NHYDovf=["OVF"]
*#-----------------|-----------------------------------------------------------|
CALIB NASHYD         ID=[3], NHYD=["Ext-10B"], DT=[1]min, AREA=[4.9](ha),
                     DWF=[0](cms),  CN/C=[54.6], IA=[6.15](mm),
                     N=[3], TP=[0.17]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-----------------------------------------------------------|
*#-----------------|-----------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS SUBWATERSHED 22 OUTFLOW --------|
*#-----------------|-----------------------------------------------------------|
*#-----------------|-----------------------------------------------------------|
ADD HYD              IDsum=[5], NHYD=["22"], IDs to add=[3,4,6]
*%-----------------|-----------------------------------------------------------|
FINISH
```

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

 SSSSS   W   W   M   M   H   H   Y   Y   M   M    OOO         222     000    11   77777 =========
 S       W W W   MM MM   H   H    Y Y    MM MM   O   O          2    0   0   11   7   7
 SSSSS   W W W   M M M   HHHHH     Y     M M M   O   O          2    0   0   11       7 Ver4.05.0
     S    W W    M   M   H   H     Y     M   M   O   O        222    0   0   11       7  APR 2017
 SSSSS    W W    M   M   H   H     Y     M   M    OOO         2      0   0   11      7   =========
                                                              2      0   0   11     7    # 3737016
       StormWater Management HYdrologic Model                  222     000    11     7    =========

 ******************************************************************************************
 *************************************  SWMHYMO Ver4.05.0  ********************************
 ******************  A single event and continuous hydrologic simulation model  ***********
 ******************     based on the principles of HYMO and its successors      ***********
 ******************                 OTTHYMO-83 and OTTHYMO-89.                  ***********
 ******************************************************************************************
 ****************** Distributed by:  J.F. Sabourin and Associates Inc.         ***********
 ******************                  Ottawa,  Ontario: (613) 836-3884          ***********
 ******************                  Gatineau, Quebec: (819) 243-6858          ***********
 ******************                  E-Mail: swmhymo@jfsa.com                  ***********
 ******************************************************************************************

 ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
 +++++++++++++++++ Licensed user: C.F. Crozier & Associates Inc.          +++++++++++++++++
 ++++++++++++++++++                 Collingwood          SERIAL#:3737016   +++++++++++++++++
 ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++

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


 ********************************   S U M M A R Y   O U T P U T   ************************
 ******************************************************************************************
 *                  RUN DATE: 2022-02-11     TIME: 10:06:18     RUN COUNTER: 000002       *
 ******************************************************************************************
 * Input   file: J:\100\119 - Tabera Ltd\2528\Design\SWM\Fourth Submission\SWMHYMO Model\2022.01.1*
 *               9 - regional control\25mm\POST_25mm v3.Dat                               *
 * Output  file: J:\100\119 - Tabera Ltd\2528\Design\SWM\Fourth Submission\SWMHYMO Model\2022.01.1*
 *               9 - regional control\25mm\POST_25mm v3.out                               *
 * Summary file: J:\100\119 - Tabera Ltd\2528\Design\SWM\Fourth Submission\SWMHYMO Model\2022.01.1*
 *               9 - regional control\25mm\POST_25mm v3.sum                               *
 * User comments:                                                                         *
 * 1:_____________________________________________________________________________________*
 * 2:_____________________________________________________________________________________*
 * 3:_____________________________________________________________________________________*
 ******************************************************************************************


#*****************************************************************************
#  Project Name: [ALTA PHASE-II]    Project Number: [119-2528]
#  Date        : 2021.06.30
#  Modified    : 2021.06.30
#  Modeller    : [Z. Holland]
#  Company     : C.F. Crozier & Associates Inc.
#  License #   : 3737016
#*****************************************************************************
 RUN#:COMMAND#
R0001:C00001------------------------------------------------------------------------------
     START
       [TZERO =    .00 hrs on        0]
       [METOUT=   2    (1=imperial, 2=metric output)]
       [NSTORM=   0 ]
       [NRUN  = 0001 ]
#-----------------|-----------------------------------------------------------|
#-----------------|----------25mm-------------------------------------------|
#-----------------|-----------------------------------------------------------|
R0001:C00002------------------------------------------------------------------------------
     READ STORM
       Filename = 25mm.stm
       Comment  = 25 mm Event
       [SDT= 4.80:SDUR=   3.04:PTOT=  25.05]
#-----------------|-----------------------------------------------------------|
#-----------------|----------------POST-DEVELOPMENT-------------------------|
#-----------------|-----------------------------------------------------------|
#-----------------|--------------------OUTLET A----------------------------|
#-----------------|-----------------------------------------------------------|
R0001:C00003-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD          1.2 02:EXT-1         3.50     .020 No_date    1:14    2.08 .083      .000
       [CN= 73.0: N= 3.00: Tp=  .13]
#-----------------|-----------------------------------------------------------|
R0001:C00004-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD          1.2 03:INT-3          .20     .001 No_date    1:04    2.08 .083      .000
       [CN= 73.0: N= 3.00: Tp=  .05]
#-----------------|-----------------------------------------------------------|
R0001:C00005-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD          1.2 04:UNC-1          .80     .011 No_date    1:21    5.53 .221      .000
       [CN= 82.0: N= 3.00: Tp=  .28]
#-----------------|-----------------------------------------------------------|
#-----------------|-----------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 825mm CULVERT     |
#-----------------|-----------------------------------------------------------|
R0001:C00006-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.2 02:EXT-1         3.50     .020 No_date    1:14    2.08  n/a      .000
                      +    1.2 03:INT-3          .20     .001 No_date    1:04    2.08  n/a      .000
                      +    1.2 04:UNC-1          .80     .011 No_date    1:21    5.53  n/a      .000
                   SUM=    1.2 01:825mm         4.50     .031 No_date    1:16    2.69  n/a      .000
#-----------------|-----------------------------------------------------------|
#-----------------|-----------------------------------------------------------|
#-----------------|-----------OUTLET B--------------------------------------|
#-----------------|-----------------------------------------------------------|
R0001:C00007-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD          1.2 05:EXT-2         4.10     .024 No_date    1:13    2.08 .083      .000
       [CN= 73.0: N= 3.00: Tp=  .12]
#-----------------|-----------------------------------------------------------|
R0001:C00008-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD          1.2 08:EXT-3         2.20     .012 No_date    1:14    2.08 .083      .000
       [CN= 73.0: N= 3.00: Tp=  .13]
#-----------------|-----------------------------------------------------------|
R0001:C00009-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB STANDHYD        1.2 06:INT-2         3.00     .073 No_date    1:00    8.40 .335      .000
       [XIMP=.15:TIMP=.31]
       [LOSS= 2 :CN= 79.0]
       [Pervious   area: IAper= 5.00:SLPP=2.00:LGP=  65.:MNP=.250:SCP=   .0]
       [Impervious area: IAimp= 2.00:SLPI= .50:LGI= 141.:MNI=.013:SCI=   .0]
#-----------------|-----------------------------------------------------------|
R0001:C00010-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD          1.2 07:INT-4          .60     .004 No_date    1:04    2.08 .083      .000
       [CN= 73.0: N= 3.00: Tp=  .05]
#-----------------|-----------------------------------------------------------|
R0001:C00011-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB STANDHYD        1.2 09:INT-1         8.60     .211 No_date    1:02    9.61 .384      .000
       [XIMP=.17:TIMP=.43]
       [LOSS= 2 :CN= 79.0]
       [Pervious   area: IAper= 5.00:SLPP=2.00:LGP=  65.:MNP=.250:SCP=   .0]
       [Impervious area: IAimp= 2.00:SLPI= .50:LGI= 245.:MNI=.013:SCI=   .0]
#-----------------|-----------------------------------------------------------|
#-----------------|-----------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE SWMF-------------|
#-----------------|-----------------------------------------------------------|
#-----------------|-----------------------------------------------------------|
R0001:C00012-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.2 05:EXT-2         4.10     .024 No_date    1:13    2.08  n/a      .000
                      +    1.2 08:EXT-3         2.20     .012 No_date    1:14    2.08  n/a      .000
                      +    1.2 06:INT-2         3.00     .073 No_date    1:00    8.40  n/a      .000
                      +    1.2 07:INT-4          .60     .004 No_date    1:04    2.08  n/a      .000
                      +    1.2 09:INT-1         8.60     .211 No_date    1:02    9.61  n/a      .000
                   SUM=    1.2 04:POOL1INT     18.50     .295 No_date    1:02    6.61  n/a      .000
#-----------------|-----------------------------------------------------------|
R0001:C00013-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB STANDHYD        1.2 02:SWMF           .80     .086 No_date    0:57   13.82 .552      .000
       [XIMP=.50:TIMP=.50]
       [LOSS= 2 :CN= 79.0]
       [Pervious   area: IAper= 5.00:SLPP=2.00:LGP=  20.:MNP=.250:SCP=   .0]
       [Impervious area: IAimp= 2.00:SLPI=2.00:LGI=  64.:MNI=.013:SCI=   .0]
#-----------------|-----------------------------------------------------------|
R0001:C00014-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.2 04:POOL1INT     18.50     .295 No_date    1:02    6.61  n/a      .000
                      +    1.2 02:SWMF           .80     .086 No_date    0:57   13.82  n/a      .000
                   SUM=    1.2 03:POOL1        19.30     .341 No_date    1:02    6.91  n/a      .000
#-----------------|-----------------------------------------------------------|
#-----------------|-----------------------------------------------------------|
R0001:C00015-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.2 03:POOL1        19.30     .341 No_date    1:02    6.91  n/a      .000
                 out <=    1.2 06:POOL         19.30     .012 No_date    3:49    6.91  n/a      .000
            overflow <=    1.2 07:OVF1           .00     .000 No_date    0:00     .00  n/a      .000
      {MxStoUsed=.1225E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
#-----------------|-----------------------------------------------------------|
R0001:C00016-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB STANDHYD        1.2 10:UNC-2         1.50     .020 No_date    0:58    6.90 .275      .000
       [XIMP=.08:TIMP=.22]
       [LOSS= 2 :CN= 79.0]
       [Pervious   area: IAper= 5.00:SLPP=2.00:LGP=  65.:MNP=.250:SCP=   .0]
       [Impervious area: IAimp= 2.00:SLPI= .50:LGI= 100.:MNI=.013:SCI=   .0]
#-----------------|-----------------------------------------------------------|
R0001:C00017-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD          1.2 04:UNC-3         2.00     .022 No_date    1:03    2.71 .108      .000
       [CN= 75.3: N= 3.00: Tp=  .05]
#-----------------|-----------------------------------------------------------|
#-----------------|-----------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 900mm CULVERT-----|
#-----------------|-----------------------------------------------------------|
R0001:C00018-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.2 04:UNC-3         2.00     .022 No_date    1:03    2.71  n/a      .000
                      +    1.2 06:POOL         19.30     .012 No_date    3:49    6.91  n/a      .000
                      +    1.2 07:OVF1           .00     .000 No_date    0:00     .00  n/a      .000
                      +    1.2 10:UNC-2         1.50     .020 No_date    0:58    6.90  n/a      .000
                   SUM=    1.2 02:900mm        22.80     .040 No_date    1:03    6.54  n/a      .000
#-----------------|-----------------------------------------------------------|
#-----------------|-----------------------------------------------------------|
#-----------------|-----------OUTLET C--------------------------------------|
#-----------------|-----------------------------------------------------------|
R0001:C00019-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD          1.2 04:EXT-4         3.10     .018 No_date    1:14    2.08 .083      .000
       [CN= 73.0: N= 3.00: Tp=  .13]
#-----------------|-----------------------------------------------------------|
R0001:C00020-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD          1.2 05:EXT-5         5.20     .031 No_date    1:12    2.08 .083      .000
       [CN= 73.0: N= 3.00: Tp=  .11]
#-----------------|-----------------------------------------------------------|
R0001:C00021-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD          1.2 08:INT-5          .10     .001 No_date    1:04    2.08 .083      .000
       [CN= 73.0: N= 3.00: Tp=  .05]
#-----------------|-----------------------------------------------------------|
#-----------------|-----------------------------------------------------------|
#-----------------|-------THE ADD HYD MODELS FLOW TO WC21A--------------------|
#-----------------|-----------------------------------------------------------|
R0001:C00022-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.2 04:EXT-4         3.10     .018 No_date    1:14    2.08  n/a      .000
                      +    1.2 05:EXT-5         5.20     .031 No_date    1:12    2.08  n/a      .000
                      +    1.2 08:INT-5          .10     .001 No_date    1:04    2.08  n/a      .000
                   SUM=    1.2 06:EXT4_5        8.40     .049 No_date    1:13    2.08  n/a      .000
#-----------------|-----------------------------------------------------------|
R0001:C00023-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    1.2 06:EXT4_5        8.40     .049 No_date    1:13    2.08  n/a      .000
       [RDT= 1.20] out<-   1.2 05:WC21A         8.40     .035 No_date    1:27    2.08  n/a      .000
       [L/S/n=  730./5.500/.070]
       {Vmax=  .858:Dmax=  .037}
#-----------------|-----------------------------------------------------------|
R0001:C00024-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD          1.2 04:UNC-4         3.10     .003 No_date    1:31     .58 .023      .000
       [CN= 37.0: N= 3.00: Tp=  .30]
#-----------------|-----------------------------------------------------------|
#-----------------|-------THE ADD HYD MODELS FLOW TO WC21A AT SITE------------|
#-----------------|-----------------------------------------------------------|
R0001:C00025-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.2 05:WC21A         8.40     .035 No_date    1:27    2.08  n/a      .000
                      +    1.2 04:UNC-4         3.10     .003 No_date    1:31     .58  n/a      .000
                   SUM=    1.2 03:EXT_UNC      11.50     .039 No_date    1:27    1.67  n/a      .000
#-----------------|-----------------------------------------------------------|
#-----------------|-----------------------------------------------------------|
R0001:C00026-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD          1.2 07:Ext-6         6.00     .021 No_date    1:42    2.08 .083      .000
       [CN= 73.0: N= 3.00: Tp=  .39]
#-----------------|-----------------------------------------------------------|
R0001:C00027-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD          1.2 09:Ext-7         6.00     .029 No_date    1:20    2.08 .083      .000
       [CN= 73.0: N= 3.00: Tp=  .19]
#-----------------|-----------------------------------------------------------|
R0001:C00028-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD          1.2 10:Ext-8        13.10     .062 No_date    1:39    2.66 .106      .000
       [CN= 75.2: N= 3.00: Tp=  .40]
#-----------------|-----------------------------------------------------------|
#-----------------|-----------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS SUBWATERSHED FLOW---------------|
#-----------------|-----------------------------------------------------------|
R0001:C00029-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.2 07:Ext-6         6.00     .021 No_date    1:42    2.08  n/a      .000
                      +    1.2 03:EXT_UNC      11.50     .039 No_date    1:27    1.67  n/a      .000
                      +    1.2 09:Ext-7         6.00     .029 No_date    1:20    2.08  n/a      .000
                      +    1.2 10:Ext-8        13.10     .062 No_date    1:39    2.66  n/a      .000
                   SUM=    1.2 04:NE_DITCH     36.60     .143 No_date    1:33    2.16  n/a      .000
#-----------------|-----------------------------------------------------------|
R0001:C00030-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD          1.2 06:Ext-9         7.00     .043 No_date    1:32    3.08 .123      .000
       [CN= 76.8: N= 3.00: Tp=  .34]
#-----------------|-----------------------------------------------------------|
#-----------------|-----------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS Subwatershed 21A Outflow--------|
#-----------------|-----------------------------------------------------------|
#-----------------|-----------------------------------------------------------|
R0001:C00031-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.2 04:NE_DITCH     36.60     .143 No_date    1:33    2.16  n/a      .000
                      +    1.2 06:Ext-9         7.00     .043 No_date    1:32    3.08  n/a      .000
                   SUM=    1.2 05:21A          43.60     .186 No_date    1:33    2.31  n/a      .000
#-----------------|-----------------------------------------------------------|
R0001:C00032-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD          1.2 04:Ext-10A      27.90     .083 No_date    1:20    1.24 .049      .000
       [CN= 56.0: N= 3.00: Tp=  .20]
#-----------------|-----------------------------------------------------------|
R0001:C00033-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD          1.2 03:Ext-11        3.90     .038 No_date    1:07    2.62 .105      .000
       [CN= 72.9: N= 3.00: Tp=  .08]
#-----------------|-----------------------------------------------------------|
R0001:C00034-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD          1.2 06:Ext-12        5.20     .026 No_date    1:20    2.08 .083      .000
       [CN= 73.0: N= 3.00: Tp=  .18]
#-----------------|-----------------------------------------------------------|
#-----------------|-----------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO EX. STORAGE AREA------|
#-----------------|-----------------------------------------------------------|
#-----------------|-----------------------------------------------------------|
R0001:C00035-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.2 01:825mm         4.50     .031 No_date    1:16    2.69  n/a      .000
                      +    1.2 02:900mm        22.80     .040 No_date    1:03    6.54  n/a      .000
                      +    1.2 04:Ext-10A      27.90     .083 No_date    1:20    1.24  n/a      .000
                      +    1.2 03:Ext-11        3.90     .038 No_date    1:07    2.62  n/a      .000
                      +    1.2 06:Ext-12        5.20     .026 No_date    1:20    2.08  n/a      .000
                   SUM=    1.2 05:WET-STO      64.30     .192 No_date    1:18    3.37  n/a      .000
#-----------------|-----------------------------------------------------------|
R0001:C00036-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.2 05:WET-STO      64.30     .192 No_date    1:18    3.37  n/a      .000
                 out <=    1.2 04:22           64.30     .135 No_date    1:42    3.37  n/a      .000
            overflow <=    1.2 06:OVF            .00     .000 No_date    0:00     .00  n/a      .000
      {MxStoUsed=.1447E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
#-----------------|-----------------------------------------------------------|
R0001:C00037-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD          1.2 03:Ext-10B       4.90     .022 No_date    1:14    1.55 .062      .000
       [CN= 54.6: N= 3.00: Tp=  .17]
#-----------------|-----------------------------------------------------------|
#-----------------|-----------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS SUBWATERSHED 22 OUTFLOW --------|
#-----------------|-----------------------------------------------------------|
#-----------------|-----------------------------------------------------------|
R0001:C00038-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.2 03:Ext-10B       4.90     .022 No_date    1:14    1.55  n/a      .000
                      +    1.2 04:22           64.30     .135 No_date    1:42    3.37  n/a      .000
                      +    1.2 06:OVF            .00     .000 No_date    0:00     .00  n/a      .000
                   SUM=    1.2 05:22           69.20     .152 No_date    1:18    3.24  n/a      .000
R0001:C00039------------------------------------------------------------------------------------
     FINISH
 -----------------------------------------------------------------------------------------------
 ***********************************************************************************************
      WARNINGS / ERRORS / NOTES
      -------------------------
    Simulation ended on 2022-02-11     at 10:06:18
 ===============================================================================================
```

```
2     Metric units
*#****************************************************************************
*#  Project Name: [ALTA PHASE-II]    Project Number: [119-2528]
*#  Date         : 2021.06.30
*#  Modified     : 2022.01.07
*#  Modeller     : [J. Kerschbaumer]
*#  Company      : C.F. Crozier & Associates Inc.
*#  License #    : 3737016
*#****************************************************************************
START                   TZERO=[0.0],  METOUT=[2],  NSTORM=[0],  NRUN=[0]
*%                       [ ] <--storm filename, one per line for NSTORM time
*#-----------------|--------------------------------------------------------------|
*#-----------------|----------2 YEAR KCHU-----------------------------------------|
*#-----------------|--------------------------------------------------------------|
READ STORM              STORM_FILENAME=["2yr.stm"]
*%-----------------|--------------------------------------------------------------|
*#-----------------|--------------------------------------------------------------|
*#-----------------|-----------------POST-DEVELOPMENT-----------------------------|
*#-----------------|--------------------------------------------------------------|
*#-----------------|--------------------OUTLET A-----------------------------------|
*#-----------------|--------------------------------------------------------------|
CALIB NASHYD            ID=[2], NHYD=["EXT-1"], DT=[1]min, AREA=[3.5](ha),
                        DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                        N=[3], TP=[0.13]hrs,
                        RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|--------------------------------------------------------------|
CALIB NASHYD            ID=[3], NHYD=["INT-3"], DT=[1]min, AREA=[0.2](ha),
                        DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                        N=[3], TP=[0.05]hrs,
                        RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|--------------------------------------------------------------|
CALIB NASHYD            ID=[4], NHYD=["UNC-1"], DT=[1]min, AREA=[0.8](ha),
                        DWF=[0](cms),  CN/C=[82], IA=[4.52](mm),
                        N=[3], TP=[0.28]hrs,
                        RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|--------------------------------------------------------------|
*#-----------------|--------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 825mm CULVERT        |
*#-----------------|--------------------------------------------------------------|
ADD HYD                 IDsum=[1], NHYD=["825mm"], IDs to add=[2,3,4]
*#-----------------|--------------------------------------------------------------|
*#-----------------|--------------------------------------------------------------|
*#-----------------|-----------OUTLET B----------------------------------------------|
*#-----------------|--------------------------------------------------------------|
*#-----------------|--------------------------------------------------------------|
CALIB NASHYD            ID=[5], NHYD=["EXT-2"], DT=[1]min, AREA=[4.1](ha),
                        DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                        N=[3], TP=[0.12]hrs,
                        RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|--------------------------------------------------------------|
CALIB NASHYD            ID=[8], NHYD=["EXT-3"], DT=[1]min, AREA=[2.2](ha),
                        DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                        N=[3], TP=[0.13]hrs,
                        RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
CALIB STANDHYD          ID=[6], NHYD=["INT-2"], DT=[1](min), AREA=[3](ha),
                        XIMP=[0.15], TIMP=[0.31], DWF=[0](cms), LOSS=[2],
                        SCS curve number CN=[79],
                        Pervious   surfaces: IAper=[5](mm), SLPP=[2](%),
                                             LGP=[65](m), MNP=[0.25], SCP=[0](min),
                        Impervious surfaces: IAimp=[2](mm), SLPI=[0.5](%),
                                             LGI=[141](m), MNI=[0.013], SCI=[0](min),
                        RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|--------------------------------------------------------------|
CALIB NASHYD            ID=[7], NHYD=["INT-4"], DT=[1]min, AREA=[0.6](ha),
                        DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                        N=[3], TP=[0.05]hrs,
                        RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|--------------------------------------------------------------|
CALIB STANDHYD          ID=[9], NHYD=["INT-1"], DT=[1](min), AREA=[8.60](ha),
                        XIMP=[0.168], TIMP=[0.431], DWF=[0](cms), LOSS=[2],
                        SCS curve number CN=[79],
                        Pervious   surfaces: IAper=[5](mm), SLPP=[2](%),
                                             LGP=[65](m), MNP=[0.25], SCP=[0](min),
                        Impervious surfaces: IAimp=[2](mm), SLPI=[0.5](%),
                                             LGI=[239](m), MNI=[0.013], SCI=[0](min),
                        RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|--------------------------------------------------------------|
*#-----------------|--------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE SWMF--------------|
*#-----------------|--------------------------------------------------------------|
*#-----------------|--------------------------------------------------------------|
ADD HYD                 IDsum=[4], NHYD=["POOL1INT"], IDs to add=[5,8,6,7,9]
*#-----------------|--------------------------------------------------------------|
CALIB STANDHYD          ID=[2], NHYD=["SWMF"], DT=[1](min), AREA=[0.8](ha),
                        XIMP=[0.5], TIMP=[0.5], DWF=[0](cms), LOSS=[2],
                        SCS curve number CN=[79],
                        Pervious   surfaces: IAper=[5](mm), SLPP=[2](%),
                                             LGP=[20](m), MNP=[0.25], SCP=[0](min),
                        Impervious surfaces: IAimp=[2](mm), SLPI=[2](%),
                                             LGI=[64](m), MNI=[0.013], SCI=[0](min),
                        RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|--------------------------------------------------------------|
ADD HYD                 IDsum=[3], NHYD=["POOL1"], IDs to add=[4,2]
*#-----------------|--------------------------------------------------------------|
*#-----------------|--------------------------------------------------------------|
ROUTE RESERVOIR         IDout=[6],   NHYD=["POOL"],  IDin=[3],
                        RDT=[1](min),
                              TABLE of ( OUTFLOW-STORAGE ) values
                                         (cms) - (ha-m)
                                       [ 0.0 ,    0.0]
                                       [ 0.012,  0.126]
                                       [ 0.024,  0.189]
                                       [ 0.042,  0.251]
                                       [ 0.117,  0.440]
                                       [ 0.215,  0.564]
                                       [ 0.292,  0.652]
                                       [ 0.376,  0.743]
                                       [ 0.514,  0.887]
                                       [ 0.949,  1.317]
                                       [ 1.009,  1.339]
                                       [ 1.105,  1.360]
                                       [   -1  ,  -1  ]  (max twenty pts)
                              IDovf=[7], NHYDovf=["OVF1"]
*#-----------------|--------------------------------------------------------------|
CALIB STANDHYD          ID=[10], NHYD=["UNC-2"], DT=[1](min), AREA=[1.5](ha),
                        XIMP=[0.075], TIMP=[0.221], DWF=[0](cms), LOSS=[2],
                        SCS curve number CN=[79],
                        Pervious   surfaces: IAper=[5](mm), SLPP=[2](%),
                                             LGP=[65](m), MNP=[0.25], SCP=[0](min),
                        Impervious surfaces: IAimp=[2](mm), SLPI=[0.5](%),
                                             LGI=[100](m), MNI=[0.013], SCI=[0](min),
                        RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|--------------------------------------------------------------|
CALIB NASHYD            ID=[4], NHYD=["UNC-3"], DT=[1]min, AREA=[2.0](ha),
                        DWF=[0](cms),  CN/C=[75.3], IA=[8.61](mm),
                        N=[3], TP=[0.05]hrs,
                        RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|--------------------------------------------------------------|
*#-----------------|--------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 900mm CULVERT-----|
*#-----------------|--------------------------------------------------------------|
ADD HYD                 IDsum=[2], NHYD=["900mm"], IDs to add=[4,6,7,10]
*#-----------------|--------------------------------------------------------------|
*#-----------------|--------------------------------------------------------------|
*#-----------------|-----------OUTLET C----------------------------------------------|
*#-----------------|--------------------------------------------------------------|
CALIB NASHYD            ID=[4], NHYD=["EXT-4"], DT=[1]min, AREA=[2.6](ha),
                        DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                        N=[3], TP=[0.13]hrs,
                        RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|--------------------------------------------------------------|
CALIB NASHYD            ID=[5], NHYD=["EXT-5"], DT=[1]min, AREA=[5.2](ha),
                        DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                        N=[3], TP=[0.11]hrs,
                        RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|--------------------------------------------------------------|
CALIB NASHYD            ID=[8], NHYD=["INT-5"], DT=[1]min, AREA=[0.1](ha),
                        DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                        N=[3], TP=[0.05]hrs,
                        RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|--------------------------------------------------------------|
*#-----------------|--------------------------------------------------------------|
*#-----------------|-------THE ADD HYD MODELS FLOW TO WC21A--------------------|
*#-----------------|--------------------------------------------------------------|
ADD HYD                 IDsum=[6], NHYD=["EXT4_5"], IDs to add=[4,5,8]
*#-----------------|--------------------------------------------------------------|
ROUTE CHANNEL           IDout=[5], NHYD=["WC21A"], IDin=[6],
                        RDT=[1](min),
                        CHLGTH=[730](m),  CHSLOPE=[5.5](%),
                                            FPSLOPE=[5.5](%),
                        SECNUM=[1.1],       NSEG=[3]
                        ( SEGROUGH, SEGDIST (m))=[0.07,4.8 -0.07,19.0 0.07,41] NSEG times
                        ( DISTANCE (m), ELEVATION (m))=[0,220]
                                                       [4.8,217.5]
                                                       [19.0,215]
                                                       [34,217.5]
                                                       [41,220]
*#-----------------|--------------------------------------------------------------|
CALIB NASHYD            ID=[4], NHYD=["UNC-4"], DT=[1]min, AREA=[3.10](ha),
                        DWF=[0](cms),  CN/C=[36.7], IA=[9.00](mm),
                        N=[3], TP=[0.30]hrs,
                        RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|--------------------------------------------------------------|
*#-----------------|-------THE ADD HYD MODELS FLOW TO WC21A AT SITE------------|
*#-----------------|--------------------------------------------------------------|
ADD HYD                 IDsum=[3], NHYD=["EXT_UNC"], IDs to add=[5,4]
*#-----------------|--------------------------------------------------------------|
*#-----------------|--------------------------------------------------------------|
CALIB NASHYD            ID=[7], NHYD=["Ext-6"], DT=[1]min, AREA=[6.0](ha),
                        DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                        N=[3], TP=[0.39]hrs,
                        RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|--------------------------------------------------------------|
CALIB NASHYD            ID=[9], NHYD=["Ext-7"], DT=[1]min, AREA=[6.0](ha),
                        DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                        N=[3], TP=[0.19]hrs,
                        RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|--------------------------------------------------------------|
CALIB NASHYD            ID=[10], NHYD=["Ext-8"], DT=[1]min, AREA=[13.1](ha),
                        DWF=[0](cms),  CN/C=[75.2], IA=[8.74](mm),
                        N=[3], TP=[0.40]hrs,
                        RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|--------------------------------------------------------------|
*#-----------------|--------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS SUBWATERSHED FLOW---------------|
*#-----------------|--------------------------------------------------------------|
ADD HYD                 IDsum=[4], NHYD=["NE_DITCH"], IDs to add=[7,3,9,10]
*#-----------------|--------------------------------------------------------------|
CALIB NASHYD            ID=[6], NHYD=["Ext-9"], DT=[1]min, AREA=[7.0](ha),
                        DWF=[0](cms),  CN/C=[76.8], IA=[8.06](mm),
                        N=[3], TP=[0.34]hrs,
                        RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|--------------------------------------------------------------|
*#-----------------|--------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS Subwatershed 21A Outflow--------|
*#-----------------|--------------------------------------------------------------|
*#-----------------|--------------------------------------------------------------|
ADD HYD                 IDsum=[5], NHYD=["21A"], IDs to add=[4,6]
*#-----------------|--------------------------------------------------------------|
CALIB NASHYD            ID=[4], NHYD=["Ext-10A"], DT=[1]min, AREA=[27.9](ha),
                        DWF=[0](cms),  CN/C=[56.0], IA=[8.70](mm),
                        N=[3], TP=[0.20]hrs,
                        RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|--------------------------------------------------------------|
CALIB NASHYD            ID=[3], NHYD=["Ext-11"], DT=[1]min, AREA=[3.9](ha),
                        DWF=[0](cms),  CN/C=[72.9], IA=[7.96](mm),
                        N=[3], TP=[0.08]hrs,
                        RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|--------------------------------------------------------------|
CALIB NASHYD            ID=[6], NHYD=["Ext-12"], DT=[1]min, AREA=[5.2](ha),
                        DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                        N=[3], TP=[0.18]hrs,
                        RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|--------------------------------------------------------------|
*#-----------------|--------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO EX. STORAGE AREA------|
*#-----------------|--------------------------------------------------------------|
*#-----------------|--------------------------------------------------------------|
ADD HYD                 IDsum=[5], NHYD=["WET-STO"], IDs to add=[1,2,4,3,6]
*#-----------------|--------------------------------------------------------------|
ROUTE RESERVOIR         IDout=[4],   NHYD=["22"],  IDin=[5],
                        RDT=[1](min),
                              TABLE of ( OUTFLOW-STORAGE ) values
                                          (cms) - (ha-m)
                                        [   0.0 ,  0.0 ]
                                        [   0.0102 ,  0.002 ]
                                        [   0.04230 ,  0.004 ]
                                        [   0.0939 ,  0.006 ]
                                        [   0.1286 ,  0.008 ]
                                        [   0.16330 ,  0.045 ]
                                        [   0.2489 ,  0.262 ]
                                        [   0.3488 ,  0.622 ]
                                        [   0.4601 ,  1.088 ]
                                        [   0.51955 ,  1.623 ]
                                        [   0.579 ,  1.925 ]
                                        [   0.7014 ,  2.253 ]
                                        [   0.8216 ,  2.951 ]
                                        [   0.9345 ,  3.689 ]
                                        [   -1  ,  -1  ]  (max twenty pts)
                              IDovf=[6], NHYDovf=["OVF"]
*#-----------------|--------------------------------------------------------------|
CALIB NASHYD            ID=[3], NHYD=["Ext-10B"], DT=[1]min, AREA=[4.9](ha),
                        DWF=[0](cms),  CN/C=[54.6], IA=[6.15](mm),
                        N=[3], TP=[0.17]hrs,
                        RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|--------------------------------------------------------------|
*#-----------------|--------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS SUBWATERSHED 22 OUTFLOW --------|
*#-----------------|--------------------------------------------------------------|
*#-----------------|--------------------------------------------------------------|
ADD HYD                 IDsum=[5], NHYD=["22"], IDs to add=[3,4,6]
*%-----------------|--------------------------------------------------------------|




*#-----------------|--------------------------------------------------------------|
*#-----------------|----------5 YEAR KCHU-----------------------------------------|
*#-----------------|--------------------------------------------------------------|
READ STORM              STORM_FILENAME=["5yr.stm"]
*%-----------------|--------------------------------------------------------------|
*#-----------------|--------------------------------------------------------------|
*#-----------------|-----------------POST-DEVELOPMENT-----------------------------|
*#-----------------|--------------------------------------------------------------|
*#-----------------|--------------------OUTLET A-----------------------------------|
*#-----------------|--------------------------------------------------------------|
CALIB NASHYD            ID=[2], NHYD=["EXT-1"], DT=[1]min, AREA=[3.5](ha),
                        DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                        N=[3], TP=[0.13]hrs,
                        RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|--------------------------------------------------------------|
CALIB NASHYD            ID=[3], NHYD=["INT-3"], DT=[1]min, AREA=[0.2](ha),
                        DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                        N=[3], TP=[0.05]hrs,
                        RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|--------------------------------------------------------------|
CALIB NASHYD            ID=[4], NHYD=["UNC-1"], DT=[1]min, AREA=[0.8](ha),
                        DWF=[0](cms),  CN/C=[82], IA=[4.52](mm),
                        N=[3], TP=[0.28]hrs,
                        RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|--------------------------------------------------------------|
*#-----------------|--------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 825mm CULVERT        |
*#-----------------|--------------------------------------------------------------|
ADD HYD                 IDsum=[1], NHYD=["825mm"], IDs to add=[2,3,4]
*#-----------------|--------------------------------------------------------------|
*#-----------------|--------------------------------------------------------------|
*#-----------------|-----------OUTLET B----------------------------------------------|
*#-----------------|--------------------------------------------------------------|
CALIB NASHYD            ID=[5], NHYD=["EXT-2"], DT=[1]min, AREA=[4.1](ha),
                        DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                        N=[3], TP=[0.12]hrs,
                        RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|--------------------------------------------------------------|
CALIB NASHYD            ID=[8], NHYD=["EXT-3"], DT=[1]min, AREA=[2.2](ha),
                        DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                        N=[3], TP=[0.13]hrs,
                        RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|--------------------------------------------------------------|
CALIB STANDHYD          ID=[6], NHYD=["INT-2"], DT=[1](min), AREA=[3](ha),
                        XIMP=[0.15], TIMP=[0.31], DWF=[0](cms), LOSS=[2],
                        SCS curve number CN=[79],
                        Pervious   surfaces: IAper=[5](mm), SLPP=[2](%),
                                             LGP=[65](m), MNP=[0.25], SCP=[0](min),
                        Impervious surfaces: IAimp=[2](mm), SLPI=[0.5](%),
                                             LGI=[141](m), MNI=[0.013], SCI=[0](min),
                        RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|--------------------------------------------------------------|
CALIB NASHYD            ID=[7], NHYD=["INT-4"], DT=[1]min, AREA=[0.6](ha),
                        DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                        N=[3], TP=[0.05]hrs,
                        RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|--------------------------------------------------------------|
CALIB STANDHYD          ID=[9], NHYD=["INT-1"], DT=[1](min), AREA=[8.60](ha),
                        XIMP=[0.168], TIMP=[0.431], DWF=[0](cms), LOSS=[2],
                        SCS curve number CN=[79],
                        Pervious   surfaces: IAper=[5](mm), SLPP=[2](%),
                                             LGP=[65](m), MNP=[0.25], SCP=[0](min),
                        Impervious surfaces: IAimp=[2](mm), SLPI=[0.5](%),
                                             LGI=[239](m), MNI=[0.013], SCI=[0](min),
                        RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|--------------------------------------------------------------|
*#-----------------|--------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE SWMF--------------|
*#-----------------|--------------------------------------------------------------|
*#-----------------|--------------------------------------------------------------|
ADD HYD                 IDsum=[4], NHYD=["POOL1INT"], IDs to add=[5,8,6,7,9]
*#-----------------|--------------------------------------------------------------|
CALIB STANDHYD          ID=[2], NHYD=["SWMF"], DT=[1](min), AREA=[0.8](ha),
                        XIMP=[0.5], TIMP=[0.5], DWF=[0](cms), LOSS=[2],
                        SCS curve number CN=[79],
                        Pervious   surfaces: IAper=[5](mm), SLPP=[2](%),
                                             LGP=[20](m), MNP=[0.25], SCP=[0](min),
                        Impervious surfaces: IAimp=[2](mm), SLPI=[2](%),
                                             LGI=[64](m), MNI=[0.013], SCI=[0](min),
                        RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|--------------------------------------------------------------|
ADD HYD                 IDsum=[3], NHYD=["POOL1"], IDs to add=[4,2]
*#-----------------|--------------------------------------------------------------|
*#-----------------|--------------------------------------------------------------|
ROUTE RESERVOIR         IDout=[6],   NHYD=["POOL"],  IDin=[3],
                        RDT=[1](min),
                              TABLE of ( OUTFLOW-STORAGE ) values
                                         (cms) - (ha-m)
                                       [ 0.0 ,    0.0]
                                       [ 0.012,  0.126]
                                       [ 0.024,  0.189]
                                       [ 0.042,  0.251]
                                       [ 0.117,  0.440]
                                       [ 0.215,  0.564]
                                       [ 0.292,  0.652]
                                       [ 0.376,  0.743]
                                       [ 0.514,  0.887]
                                       [ 0.949,  1.317]
                                       [ 1.009,  1.339]
                                       [ 1.105,  1.360]
                                       [   -1  ,  -1  ]  (max twenty pts)
                              IDovf=[7], NHYDovf=["OVF1"]
*#-----------------|--------------------------------------------------------------|
CALIB STANDHYD          ID=[10], NHYD=["UNC-2"], DT=[1](min), AREA=[1.5](ha),
                        XIMP=[0.075], TIMP=[0.221], DWF=[0](cms), LOSS=[2],
                        SCS curve number CN=[79],
                        Pervious   surfaces: IAper=[5](mm), SLPP=[2](%),
                                             LGP=[65](m), MNP=[0.25], SCP=[0](min),
```

```
                         Impervious surfaces: IAimp=[2](mm), SLPI=[0.5](%),
                                              LGI=[100](m), MNI=[0.013], SCI=[0](min),
                         RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|----------------------------------------------------------------|
CALIB NASHYD             ID=[4], NHYD=["UNC-3"], DT=[1]min, AREA=[2.0](ha),
                         DWF=[0](cms),  CN/C=[75.3], IA=[8.61](mm),
                         N=[3], TP=[0.05]hrs,
                         RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|----------------------------------------------------------------|
*#-----------------|----------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 900mm CULVERT-----|
*#-----------------|----------------------------------------------------------------|
ADD HYD                  IDsum=[2], NHYD=["900mm"], IDs to add=[4,6,7,10]
*#-----------------|----------------------------------------------------------------|
*#-----------------|----------------------------------------------------------------|
*#-----------------|-----------OUTLET C--------------------------------------------|
*#-----------------|----------------------------------------------------------------|
CALIB NASHYD             ID=[4], NHYD=["EXT-4"], DT=[1]min, AREA=[2.6](ha),
                         DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                         N=[3], TP=[0.13]hrs,
                         RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|----------------------------------------------------------------|
CALIB NASHYD             ID=[5], NHYD=["EXT-5"], DT=[1]min, AREA=[5.2](ha),
                         DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                         N=[3], TP=[0.11]hrs,
                         RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|----------------------------------------------------------------|
CALIB NASHYD             ID=[8], NHYD=["INT-5"], DT=[1]min, AREA=[0.1](ha),
                         DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                         N=[3], TP=[0.05]hrs,
                         RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|----------------------------------------------------------------|
*#-----------------|----------------------------------------------------------------|
*#-----------------|-------THE ADD HYD MODELS FLOW TO WC21A--------------------|
*#-----------------|----------------------------------------------------------------|
ADD HYD                  IDsum=[6], NHYD=["EXT4_5"], IDs to add=[4,5,8]
*#-----------------|----------------------------------------------------------------|
ROUTE CHANNEL            IDout=[5], NHYD=["WC21A"], IDin=[6],
                         RDT=[1](min),
                         CHLGTH=[730](m),  CHSLOPE=[5.5](%),
                                           FPSLOPE=[5.5](%),
                         SECNUM=[1.1],     NSEG=[3]
                         ( SEGROUGH, SEGDIST (m))=[0.07,4.8 -0.07,19.0 0.07,41] NSEG times
                         ( DISTANCE (m), ELEVATION (m))=[0,220]
                                                        [4.8,217.5]
                                                        [19.0,215]
                                                        [34,217.5]
                                                        [41,220]
*#-----------------|----------------------------------------------------------------|
CALIB NASHYD             ID=[4], NHYD=["UNC-4"], DT=[1]min, AREA=[3.10](ha),
                         DWF=[0](cms),  CN/C=[36.7], IA=[9.00](mm),
                         N=[3], TP=[0.30]hrs,
                         RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|----------------------------------------------------------------|
*#-----------------|-------THE ADD HYD MODELS FLOW TO WC21A AT SITE------------|
*#-----------------|----------------------------------------------------------------|
ADD HYD                  IDsum=[3], NHYD=["EXT_UNC"], IDs to add=[5,4]
*#-----------------|----------------------------------------------------------------|
*#-----------------|----------------------------------------------------------------|
CALIB NASHYD             ID=[7], NHYD=["Ext-6"], DT=[1]min, AREA=[6.0](ha),
                         DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                         N=[3], TP=[0.39]hrs,
                         RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|----------------------------------------------------------------|
CALIB NASHYD             ID=[9], NHYD=["Ext-7"], DT=[1]min, AREA=[6.0](ha),
                         DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                         N=[3], TP=[0.19]hrs,
                         RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|----------------------------------------------------------------|
CALIB NASHYD             ID=[10], NHYD=["Ext-8"], DT=[1]min, AREA=[13.1](ha),
                         DWF=[0](cms),  CN/C=[75.2], IA=[8.74](mm),
                         N=[3], TP=[0.40]hrs,
                         RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|----------------------------------------------------------------|
*#-----------------|----------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS SUBWATERSHED FLOW---------------|
*#-----------------|----------------------------------------------------------------|
ADD HYD                  IDsum=[4], NHYD=["NE_DITCH"], IDs to add=[7,3,9,10]
*#-----------------|----------------------------------------------------------------|
CALIB NASHYD             ID=[6], NHYD=["Ext-9"], DT=[1]min, AREA=[7.0](ha),
                         DWF=[0](cms),  CN/C=[76.8], IA=[8.06](mm),
                         N=[3], TP=[0.34]hrs,
                         RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|----------------------------------------------------------------|
*#-----------------|----------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS Subwatershed 21A Outflow--------|
*#-----------------|----------------------------------------------------------------|
*#-----------------|----------------------------------------------------------------|
ADD HYD                  IDsum=[5], NHYD=["21A"], IDs to add=[4,6]
*#-----------------|----------------------------------------------------------------|
CALIB NASHYD             ID=[4], NHYD=["Ext-10A"], DT=[1]min, AREA=[27.9](ha),
                         DWF=[0](cms),  CN/C=[56.0], IA=[8.70](mm),
                         N=[3], TP=[0.20]hrs,
                         RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|----------------------------------------------------------------|
CALIB NASHYD             ID=[3], NHYD=["Ext-11"], DT=[1]min, AREA=[3.9](ha),
                         DWF=[0](cms),  CN/C=[72.9], IA=[7.96](mm),
                         N=[3], TP=[0.08]hrs,
                         RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|----------------------------------------------------------------|
CALIB NASHYD             ID=[6], NHYD=["Ext-12"], DT=[1]min, AREA=[5.2](ha),
                         DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                         N=[3], TP=[0.18]hrs,
                         RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|----------------------------------------------------------------|
*#-----------------|----------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO EX. STORAGE AREA------|
*#-----------------|----------------------------------------------------------------|
*#-----------------|----------------------------------------------------------------|
ADD HYD                  IDsum=[5], NHYD=["WET-STO"], IDs to add=[1,2,4,3,6]
*#-----------------|----------------------------------------------------------------|
ROUTE RESERVOIR          IDout=[4],   NHYD=["22"],  IDin=[5],
                         RDT=[1](min),
                               TABLE of ( OUTFLOW-STORAGE ) values
                                           (cms) - (ha-m)
                                         [   0.0 ,  0.0 ]
                                         [   0.0102 ,  0.002 ]
                                         [   0.04230 ,  0.004 ]
                                         [   0.0939 ,  0.006 ]
                                         [   0.1286 ,  0.008 ]
                                         [   0.16330 ,  0.045 ]
                                         [   0.2489 ,  0.262 ]
                                         [   0.3488 ,  0.622 ]
                                         [   0.4601 ,  1.088 ]
                                         [   0.51955 ,  1.623 ]
                                         [   0.579 ,  1.925 ]
                                         [   0.7014 ,  2.253 ]
                                         [   0.8216 ,  2.951 ]
                                         [   0.9345 ,  3.689 ]
                                         [   -1  ,  -1  ]  (max twenty pts)
                               IDovf=[6], NHYDovf=["OVF"]
*#-----------------|----------------------------------------------------------------|
CALIB NASHYD             ID=[3], NHYD=["Ext-10B"], DT=[1]min, AREA=[4.9](ha),
                         DWF=[0](cms),  CN/C=[54.6], IA=[6.15](mm),
                         N=[3], TP=[0.17]hrs,
                         RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|----------------------------------------------------------------|
*#-----------------|----------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS SUBWATERSHED 22 OUTFLOW --------|
*#-----------------|----------------------------------------------------------------|
*#-----------------|----------------------------------------------------------------|
ADD HYD                  IDsum=[5], NHYD=["22"], IDs to add=[3,4,6]
*%-----------------|----------------------------------------------------------------|





*#-----------------|----------------------------------------------------------------|
*#-----------------|----------10 YEAR KCHU-----------------------------------------|
*#-----------------|----------------------------------------------------------------|
READ STORM               STORM_FILENAME=["10yr.stm"]
*%-----------------|----------------------------------------------------------------|
*#-----------------|----------------------------------------------------------------|
*#-----------------|-----------------POST-DEVELOPMENT------------------------------|
*#-----------------|----------------------------------------------------------------|
*#-----------------|-----------------------OUTLET A--------------------------------|
*#-----------------|----------------------------------------------------------------|
CALIB NASHYD             ID=[2], NHYD=["EXT-1"], DT=[1]min, AREA=[3.5](ha),
                         DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                         N=[3], TP=[0.13]hrs,
                         RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|----------------------------------------------------------------|
CALIB NASHYD             ID=[3], NHYD=["INT-3"], DT=[1]min, AREA=[0.2](ha),
                         DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                         N=[3], TP=[0.05]hrs,
                         RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|----------------------------------------------------------------|
CALIB NASHYD             ID=[4], NHYD=["UNC-1"], DT=[1]min, AREA=[0.8](ha),
                         DWF=[0](cms),  CN/C=[82], IA=[4.52](mm),
                         N=[3], TP=[0.28]hrs,
                         RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|----------------------------------------------------------------|
*#-----------------|----------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 825mm CULVERT     |
*#-----------------|----------------------------------------------------------------|
ADD HYD                  IDsum=[1], NHYD=["825mm"], IDs to add=[2,3,4]
*#-----------------|----------------------------------------------------------------|
*#-----------------|----------------------------------------------------------------|
*#-----------------|-----------OUTLET B--------------------------------------------|
*#-----------------|----------------------------------------------------------------|
CALIB NASHYD             ID=[5], NHYD=["EXT-2"], DT=[1]min, AREA=[4.1](ha),
                         DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                         N=[3], TP=[0.12]hrs,
                         RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|----------------------------------------------------------------|
CALIB NASHYD             ID=[8], NHYD=["EXT-3"], DT=[1]min, AREA=[2.2](ha),
                         DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                         N=[3], TP=[0.13]hrs,
                         RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|----------------------------------------------------------------|
CALIB STANDHYD           ID=[6], NHYD=["INT-2"], DT=[1](min), AREA=[3](ha),
                         XIMP=[0.15], TIMP=[0.31], DWF=[0](cms), LOSS=[2],
                         SCS curve number CN=[79],
                         Pervious   surfaces: IAper=[5](mm), SLPP=[2](%),
                                              LGP=[65](m), MNP=[0.25], SCP=[0](min),
                         Impervious surfaces: IAimp=[2](mm), SLPI=[0.5](%),
                                              LGI=[141](m), MNI=[0.013], SCI=[0](min),
                         RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|----------------------------------------------------------------|
CALIB NASHYD             ID=[7], NHYD=["INT-4"], DT=[1]min, AREA=[0.6](ha),
                         DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                         N=[3], TP=[0.05]hrs,
                         RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|----------------------------------------------------------------|
CALIB STANDHYD           ID=[9], NHYD=["INT-1"], DT=[1](min), AREA=[8.60](ha),
                         XIMP=[0.168], TIMP=[0.431], DWF=[0](cms), LOSS=[2],
                         SCS curve number CN=[79],
                         Pervious   surfaces: IAper=[5](mm), SLPP=[2](%),
                                              LGP=[65](m), MNP=[0.25], SCP=[0](min),
                         Impervious surfaces: IAimp=[2](mm), SLPI=[0.5](%),
                                              LGI=[239](m), MNI=[0.013], SCI=[0](min),
                         RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|----------------------------------------------------------------|
*#-----------------|----------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE SWMF--------------|
*#-----------------|----------------------------------------------------------------|
*#-----------------|----------------------------------------------------------------|
ADD HYD                  IDsum=[4], NHYD=["POOL1INT"], IDs to add=[5,8,6,7,9]
*#-----------------|----------------------------------------------------------------|
CALIB STANDHYD           ID=[2], NHYD=["SWMF"], DT=[1](min), AREA=[0.8](ha),
                         XIMP=[0.5], TIMP=[0.5], DWF=[0](cms), LOSS=[2],
                         SCS curve number CN=[79],
                         Pervious   surfaces: IAper=[5](mm), SLPP=[2](%),
                                              LGP=[20](m), MNP=[0.25], SCP=[0](min),
                         Impervious surfaces: IAimp=[2](mm), SLPI=[2](%),
                                              LGI=[64](m), MNI=[0.013], SCI=[0](min),
                         RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|----------------------------------------------------------------|
ADD HYD                  IDsum=[3], NHYD=["POOL1"], IDs to add=[4,2]
*#-----------------|----------------------------------------------------------------|
*#-----------------|----------------------------------------------------------------|
ROUTE RESERVOIR          IDout=[6],   NHYD=["POOL"],  IDin=[3],
                         RDT=[1](min),
                               TABLE of ( OUTFLOW-STORAGE ) values
                                           (cms) - (ha-m)
                                         [ 0.0 ,    0.0]
                                         [ 0.012,  0.126]
                                         [ 0.024,  0.189]
                                         [ 0.042,  0.251]
                                         [ 0.117,  0.440]
                                         [ 0.215,  0.564]
                                         [ 0.292,  0.652]
                                         [ 0.376,  0.743]
                                         [ 0.514,  0.887]
                                         [ 0.949,  1.317]
                                         [ 1.009,  1.339]
                                         [ 1.105,  1.360]
                                         [   -1  ,  -1  ]  (max twenty pts)
                               IDovf=[7], NHYDovf=["OVF1"]
*#-----------------|----------------------------------------------------------------|
CALIB STANDHYD           ID=[10], NHYD=["UNC-2"], DT=[1](min), AREA=[1.5](ha),
                         XIMP=[0.075], TIMP=[0.221], DWF=[0](cms), LOSS=[2],
                         SCS curve number CN=[79],
                         Pervious   surfaces: IAper=[5](mm), SLPP=[2](%),
                                              LGP=[65](m), MNP=[0.25], SCP=[0](min),
                         Impervious surfaces: IAimp=[2](mm), SLPI=[0.5](%),
                                              LGI=[100](m), MNI=[0.013], SCI=[0](min),
                         RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|----------------------------------------------------------------|
CALIB NASHYD             ID=[4], NHYD=["UNC-3"], DT=[1]min, AREA=[2.0](ha),
                         DWF=[0](cms),  CN/C=[75.3], IA=[8.61](mm),
                         N=[3], TP=[0.05]hrs,
                         RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|----------------------------------------------------------------|
*#-----------------|----------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 900mm CULVERT-----|
*#-----------------|----------------------------------------------------------------|
ADD HYD                  IDsum=[2], NHYD=["900mm"], IDs to add=[4,6,7,10]
*#-----------------|----------------------------------------------------------------|
*#-----------------|----------------------------------------------------------------|
*#-----------------|-----------OUTLET C--------------------------------------------|
*#-----------------|----------------------------------------------------------------|
CALIB NASHYD             ID=[4], NHYD=["EXT-4"], DT=[1]min, AREA=[2.6](ha),
                         DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                         N=[3], TP=[0.13]hrs,
                         RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|----------------------------------------------------------------|
CALIB NASHYD             ID=[5], NHYD=["EXT-5"], DT=[1]min, AREA=[5.2](ha),
                         DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                         N=[3], TP=[0.11]hrs,
                         RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|----------------------------------------------------------------|
CALIB NASHYD             ID=[8], NHYD=["INT-5"], DT=[1]min, AREA=[0.1](ha),
                         DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                         N=[3], TP=[0.05]hrs,
                         RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|----------------------------------------------------------------|
*#-----------------|----------------------------------------------------------------|
*#-----------------|-------THE ADD HYD MODELS FLOW TO WC21A--------------------|
*#-----------------|----------------------------------------------------------------|
ADD HYD                  IDsum=[6], NHYD=["EXT4_5"], IDs to add=[4,5,8]
*#-----------------|----------------------------------------------------------------|
ROUTE CHANNEL            IDout=[5], NHYD=["WC21A"], IDin=[6],
                         RDT=[1](min),
                         CHLGTH=[730](m),  CHSLOPE=[5.5](%),
                                           FPSLOPE=[5.5](%),
                         SECNUM=[1.1],     NSEG=[3]
                         ( SEGROUGH, SEGDIST (m))=[0.07,4.8 -0.07,19.0 0.07,41] NSEG times
                         ( DISTANCE (m), ELEVATION (m))=[0,220]
                                                        [4.8,217.5]
                                                        [19.0,215]
                                                        [34,217.5]
                                                        [41,220]
*#-----------------|----------------------------------------------------------------|
CALIB NASHYD             ID=[4], NHYD=["UNC-4"], DT=[1]min, AREA=[3.10](ha),
                         DWF=[0](cms),  CN/C=[36.7], IA=[9.00](mm),
                         N=[3], TP=[0.30]hrs,
                         RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|----------------------------------------------------------------|
*#-----------------|-------THE ADD HYD MODELS FLOW TO WC21A AT SITE------------|
*#-----------------|----------------------------------------------------------------|
ADD HYD                  IDsum=[3], NHYD=["EXT_UNC"], IDs to add=[5,4]
*#-----------------|----------------------------------------------------------------|
*#-----------------|----------------------------------------------------------------|
CALIB NASHYD             ID=[7], NHYD=["Ext-6"], DT=[1]min, AREA=[6.0](ha),
                         DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                         N=[3], TP=[0.39]hrs,
                         RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|----------------------------------------------------------------|
CALIB NASHYD             ID=[9], NHYD=["Ext-7"], DT=[1]min, AREA=[6.0](ha),
                         DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                         N=[3], TP=[0.19]hrs,
                         RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|----------------------------------------------------------------|
CALIB NASHYD             ID=[10], NHYD=["Ext-8"], DT=[1]min, AREA=[13.1](ha),
                         DWF=[0](cms),  CN/C=[75.2], IA=[8.74](mm),
                         N=[3], TP=[0.40]hrs,
                         RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|----------------------------------------------------------------|
*#-----------------|----------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS SUBWATERSHED FLOW---------------|
*#-----------------|----------------------------------------------------------------|
ADD HYD                  IDsum=[4], NHYD=["NE_DITCH"], IDs to add=[7,3,9,10]
*#-----------------|----------------------------------------------------------------|
CALIB NASHYD             ID=[6], NHYD=["Ext-9"], DT=[1]min, AREA=[7.0](ha),
                         DWF=[0](cms),  CN/C=[76.8], IA=[8.06](mm),
                         N=[3], TP=[0.34]hrs,
                         RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|----------------------------------------------------------------|
*#-----------------|----------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS Subwatershed 21A Outflow--------|
*#-----------------|----------------------------------------------------------------|
*#-----------------|----------------------------------------------------------------|
ADD HYD                  IDsum=[5], NHYD=["21A"], IDs to add=[4,6]
*#-----------------|----------------------------------------------------------------|
CALIB NASHYD             ID=[4], NHYD=["Ext-10A"], DT=[1]min, AREA=[27.9](ha),
                         DWF=[0](cms),  CN/C=[56.0], IA=[8.70](mm),
                         N=[3], TP=[0.20]hrs,
                         RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|----------------------------------------------------------------|
CALIB NASHYD             ID=[3], NHYD=["Ext-11"], DT=[1]min, AREA=[3.9](ha),
                         DWF=[0](cms),  CN/C=[72.9], IA=[7.96](mm),
                         N=[3], TP=[0.08]hrs,
                         RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|----------------------------------------------------------------|
CALIB NASHYD             ID=[6], NHYD=["Ext-12"], DT=[1]min, AREA=[5.2](ha),
                         DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                         N=[3], TP=[0.18]hrs,
                         RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|----------------------------------------------------------------|
*#-----------------|----------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO EX. STORAGE AREA------|
*#-----------------|----------------------------------------------------------------|
*#-----------------|----------------------------------------------------------------|
ADD HYD                  IDsum=[5], NHYD=["WET-STO"], IDs to add=[1,2,4,3,6]
*#-----------------|----------------------------------------------------------------|
ROUTE RESERVOIR          IDout=[4],   NHYD=["22"],  IDin=[5],
                         RDT=[1](min),
                               TABLE of ( OUTFLOW-STORAGE ) values
                                           (cms) - (ha-m)
                                         [   0.0 ,  0.0 ]
                                         [   0.0102 ,  0.002 ]
                                         [   0.04230 ,  0.004 ]
```

```
                                      [   0.0939 ,  0.006 ]
                                      [   0.1286 ,  0.008 ]
                                      [   0.16330 ,  0.045 ]
                                      [   0.2489 ,  0.262 ]
                                      [   0.3488 ,  0.622 ]
                                      [   0.4601 ,  1.088 ]
                                      [   0.51955 ,  1.623 ]
                                      [   0.579 ,  1.925 ]
                                      [   0.7014 ,  2.253 ]
                                      [   0.8216 ,  2.951 ]
                                      [   0.9345 ,  3.689 ]
                                      [   -1  ,  -1  ]  (max twenty pts)
                            IDovf=[6], NHYDovf=["OVF"]
*#-----------------|------------------------------------------------------------|
CALIB NASHYD        ID=[3], NHYD=["Ext-10B"], DT=[1]min, AREA=[4.9](ha),
                    DWF=[0](cms),  CN/C=[54.6], IA=[6.15](mm),
                    N=[3], TP=[0.17]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|------------------------------------------------------------|
*#-----------------|------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS SUBWATERSHED 22 OUTFLOW --------|
*#-----------------|------------------------------------------------------------|
*#-----------------|------------------------------------------------------------|
ADD HYD             IDsum=[5], NHYD=["22"], IDs to add=[3,4,6]
*%-----------------|------------------------------------------------------------|
*#-----------------|------------------------------------------------------------|
*#-----------------|----------25 YEAR KCHU-------------------------------------|
*#-----------------|------------------------------------------------------------|
READ STORM          STORM_FILENAME=["25yr.stm"]
*%-----------------|------------------------------------------------------------|
*#-----------------|------------------------------------------------------------|
*#-----------------|-----------------POST-DEVELOPMENT---------------------------|
*#-----------------|------------------------------------------------------------|
*#-----------------|---------------------OUTLET A------------------------------|
*#-----------------|------------------------------------------------------------|
CALIB NASHYD        ID=[2], NHYD=["EXT-1"], DT=[1]min, AREA=[3.5](ha),
                    DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                    N=[3], TP=[0.13]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|------------------------------------------------------------|
CALIB NASHYD        ID=[3], NHYD=["INT-3"], DT=[1]min, AREA=[0.2](ha),
                    DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                    N=[3], TP=[0.05]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|------------------------------------------------------------|
CALIB NASHYD        ID=[4], NHYD=["UNC-1"], DT=[1]min, AREA=[0.8](ha),
                    DWF=[0](cms),  CN/C=[82], IA=[4.52](mm),
                    N=[3], TP=[0.28]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|------------------------------------------------------------|
*#-----------------|------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 825mm CULVERT       |
*#-----------------|------------------------------------------------------------|
ADD HYD             IDsum=[1], NHYD=["825mm"], IDs to add=[2,3,4]
*#-----------------|------------------------------------------------------------|
*#-----------------|------------------------------------------------------------|
*#-----------------|-----------OUTLET B-----------------------------------------|
*#-----------------|------------------------------------------------------------|
CALIB NASHYD        ID=[5], NHYD=["EXT-2"], DT=[1]min, AREA=[4.1](ha),
                    DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                    N=[3], TP=[0.12]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|------------------------------------------------------------|
CALIB NASHYD        ID=[8], NHYD=["EXT-3"], DT=[1]min, AREA=[2.2](ha),
                    DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                    N=[3], TP=[0.13]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|------------------------------------------------------------|
CALIB STANDHYD      ID=[6], NHYD=["INT-2"], DT=[1](min), AREA=[3](ha),
                    XIMP=[0.15], TIMP=[0.31], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[79],
                    Pervious   surfaces: IAper=[5](mm), SLPP=[2](%),
                                         LGP=[65](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2](mm), SLPI=[0.5](%),
                                         LGI=[141](m), MNI=[0.013], SCI=[0](min),
                    RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|------------------------------------------------------------|
CALIB NASHYD        ID=[7], NHYD=["INT-4"], DT=[1]min, AREA=[0.6](ha),
                    DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                    N=[3], TP=[0.05]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|------------------------------------------------------------|
CALIB STANDHYD      ID=[9], NHYD=["INT-1"], DT=[1](min), AREA=[8.60](ha),
                    XIMP=[0.168], TIMP=[0.431], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[79],
                    Pervious   surfaces: IAper=[5](mm), SLPP=[2](%),
                                         LGP=[65](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2](mm), SLPI=[0.5](%),
                                         LGI=[239](m), MNI=[0.013], SCI=[0](min),
                    RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|------------------------------------------------------------|
*#-----------------|------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE SWMF---------------|
*#-----------------|------------------------------------------------------------|
*#-----------------|------------------------------------------------------------|
ADD HYD             IDsum=[4], NHYD=["POOL1INT"], IDs to add=[5,8,6,7,9]
*#-----------------|------------------------------------------------------------|
CALIB STANDHYD      ID=[2], NHYD=["SWMF"], DT=[1](min), AREA=[0.8](ha),
                    XIMP=[0.5], TIMP=[0.5], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[79],
                    Pervious   surfaces: IAper=[5](mm), SLPP=[2](%),
                                         LGP=[20](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2](mm), SLPI=[2](%),
                                         LGI=[64](m), MNI=[0.013], SCI=[0](min),
                    RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|------------------------------------------------------------|
ADD HYD             IDsum=[3], NHYD=["POOL1"], IDs to add=[4,2]
*#-----------------|------------------------------------------------------------|
*#-----------------|------------------------------------------------------------|
ROUTE RESERVOIR     IDout=[6],   NHYD=["POOL"],  IDin=[3],
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                    (cms) - (ha-m)
                                  [ 0.0 ,     0.0]
                                  [ 0.012,  0.126]
                                  [ 0.024,  0.189]
                                  [ 0.042,  0.251]
                                  [ 0.117,  0.440]
                                  [ 0.215,  0.564]
                                  [ 0.292,  0.652]
                                  [ 0.376,  0.743]
                                  [ 0.514,  0.887]
                                  [ 0.949,  1.317]
                                  [ 1.009,  1.339]
                                  [ 1.105,  1.360]
                                  [   -1  ,  -1  ]  (max twenty pts)
                          IDovf=[7], NHYDovf=["OVF1"]
*#-----------------|------------------------------------------------------------|
CALIB STANDHYD      ID=[10], NHYD=["UNC-2"], DT=[1](min), AREA=[1.5](ha),
                    XIMP=[0.075], TIMP=[0.221], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[79],
                    Pervious   surfaces: IAper=[5](mm), SLPP=[2](%),
                                         LGP=[65](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2](mm), SLPI=[0.5](%),
                                         LGI=[100](m), MNI=[0.013], SCI=[0](min),
                    RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|------------------------------------------------------------|
CALIB NASHYD        ID=[4], NHYD=["UNC-3"], DT=[1]min, AREA=[2.0](ha),
                    DWF=[0](cms),  CN/C=[75.3], IA=[8.61](mm),
                    N=[3], TP=[0.05]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|------------------------------------------------------------|
*#-----------------|------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 900mm CULVERT-----|
*#-----------------|------------------------------------------------------------|
ADD HYD             IDsum=[2], NHYD=["900mm"], IDs to add=[4,6,7,10]
*#-----------------|------------------------------------------------------------|
*#-----------------|------------------------------------------------------------|
*#-----------------|-----------OUTLET C-----------------------------------------|
*#-----------------|------------------------------------------------------------|
CALIB NASHYD        ID=[4], NHYD=["EXT-4"], DT=[1]min, AREA=[2.6](ha),
                    DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                    N=[3], TP=[0.13]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|------------------------------------------------------------|
CALIB NASHYD        ID=[5], NHYD=["EXT-5"], DT=[1]min, AREA=[5.2](ha),
                    DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                    N=[3], TP=[0.11]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|------------------------------------------------------------|
CALIB NASHYD        ID=[8], NHYD=["INT-5"], DT=[1]min, AREA=[0.1](ha),
                    DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                    N=[3], TP=[0.05]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|------------------------------------------------------------|
*#-----------------|------------------------------------------------------------|
*#-----------------|-------THE ADD HYD MODELS FLOW TO WC21A---------------------|
*#-----------------|------------------------------------------------------------|
ADD HYD             IDsum=[6], NHYD=["EXT4_5"], IDs to add=[4,5,8]
*#-----------------|------------------------------------------------------------|
ROUTE CHANNEL       IDout=[5], NHYD=["WC21A"], IDin=[6],
                    RDT=[1](min),
                    CHLGTH=[730](m),  CHSLOPE=[5.5](%),
                                        FPSLOPE=[5.5](%),
                    SECNUM=[1.1],       NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=[0.07,4.8 -0.07,19.0 0.07,41] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=[0,220]
                                                    [4.8,217.5]
                                                    [19.0,215]
                                                    [34,217.5]
                                                    [41,220]
*#-----------------|------------------------------------------------------------|
CALIB NASHYD        ID=[4], NHYD=["UNC-4"], DT=[1]min, AREA=[3.10](ha),
                    DWF=[0](cms),  CN/C=[36.7], IA=[9.00](mm),
                    N=[3], TP=[0.30]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|------------------------------------------------------------|
*#-----------------|-------THE ADD HYD MODELS FLOW TO WC21A AT SITE-------------|
*#-----------------|------------------------------------------------------------|
ADD HYD             IDsum=[3], NHYD=["EXT_UNC"], IDs to add=[5,4]
*#-----------------|------------------------------------------------------------|
*#-----------------|------------------------------------------------------------|
CALIB NASHYD        ID=[7], NHYD=["Ext-6"], DT=[1]min, AREA=[6.0](ha),
                    DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                    N=[3], TP=[0.39]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|------------------------------------------------------------|
CALIB NASHYD        ID=[9], NHYD=["Ext-7"], DT=[1]min, AREA=[6.0](ha),
                    DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                    N=[3], TP=[0.19]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|------------------------------------------------------------|
CALIB NASHYD        ID=[10], NHYD=["Ext-8"], DT=[1]min, AREA=[13.1](ha),
                    DWF=[0](cms),  CN/C=[75.2], IA=[8.74](mm),
                    N=[3], TP=[0.40]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|------------------------------------------------------------|
*#-----------------|------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS SUBWATERSHED FLOW----------------|
*#-----------------|------------------------------------------------------------|
ADD HYD             IDsum=[4], NHYD=["NE_DITCH"], IDs to add=[7,3,9,10]
*#-----------------|------------------------------------------------------------|
CALIB NASHYD        ID=[6], NHYD=["Ext-9"], DT=[1]min, AREA=[7.0](ha),
                    DWF=[0](cms),  CN/C=[76.8], IA=[8.06](mm),
                    N=[3], TP=[0.34]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|------------------------------------------------------------|
*#-----------------|------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS Subwatershed 21A Outflow---------|
*#-----------------|------------------------------------------------------------|
*#-----------------|------------------------------------------------------------|
ADD HYD             IDsum=[5], NHYD=["21A"], IDs to add=[4,6]
*#-----------------|------------------------------------------------------------|
CALIB NASHYD        ID=[4], NHYD=["Ext-10A"], DT=[1]min, AREA=[27.9](ha),
                    DWF=[0](cms),  CN/C=[56.0], IA=[8.70](mm),
                    N=[3], TP=[0.20]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|------------------------------------------------------------|
CALIB NASHYD        ID=[3], NHYD=["Ext-11"], DT=[1]min, AREA=[3.9](ha),
                    DWF=[0](cms),  CN/C=[72.9], IA=[7.96](mm),
                    N=[3], TP=[0.08]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|------------------------------------------------------------|
CALIB NASHYD        ID=[6], NHYD=["Ext-12"], DT=[1]min, AREA=[5.2](ha),
                    DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                    N=[3], TP=[0.18]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|------------------------------------------------------------|
*#-----------------|------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO EX. STORAGE AREA-------|
*#-----------------|------------------------------------------------------------|
*#-----------------|------------------------------------------------------------|
ADD HYD             IDsum=[5], NHYD=["WET-STO"], IDs to add=[1,2,4,3,6]
*#-----------------|------------------------------------------------------------|
ROUTE RESERVOIR     IDout=[4],   NHYD=["22"],  IDin=[5],
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                    (cms) - (ha-m)
                                  [   0.0 ,  0.0 ]
                                  [   0.0102 ,  0.002 ]
                                  [   0.04230 ,  0.004 ]
                                  [   0.0939 ,  0.006 ]
                                  [   0.1286 ,  0.008 ]
                                  [   0.16330 ,  0.045 ]
                                  [   0.2489 ,  0.262 ]
                                  [   0.3488 ,  0.622 ]
                                  [   0.4601 ,  1.088 ]
                                  [   0.51955 ,  1.623 ]
                                  [   0.579 ,  1.925 ]
                                  [   0.7014 ,  2.253 ]
                                  [   0.8216 ,  2.951 ]
                                  [   0.9345 ,  3.689 ]
                                  [   -1  ,  -1  ]  (max twenty pts)
                          IDovf=[6], NHYDovf=["OVF"]
*#-----------------|------------------------------------------------------------|
CALIB NASHYD        ID=[3], NHYD=["Ext-10B"], DT=[1]min, AREA=[4.9](ha),
                    DWF=[0](cms),  CN/C=[54.6], IA=[6.15](mm),
                    N=[3], TP=[0.17]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|------------------------------------------------------------|
*#-----------------|------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS SUBWATERSHED 22 OUTFLOW --------|
*#-----------------|------------------------------------------------------------|
*#-----------------|------------------------------------------------------------|
ADD HYD             IDsum=[5], NHYD=["22"], IDs to add=[3,4,6]
*%-----------------|------------------------------------------------------------|
*#-----------------|------------------------------------------------------------|
*#-----------------|----------50 YEAR KCHU-------------------------------------|
*#-----------------|------------------------------------------------------------|
READ STORM          STORM_FILENAME=["50yr.stm"]
*%-----------------|------------------------------------------------------------|
*#-----------------|------------------------------------------------------------|
*#-----------------|-----------------POST-DEVELOPMENT---------------------------|
*#-----------------|------------------------------------------------------------|
*#-----------------|---------------------OUTLET A------------------------------|
*#-----------------|------------------------------------------------------------|
CALIB NASHYD        ID=[2], NHYD=["EXT-1"], DT=[1]min, AREA=[3.5](ha),
                    DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                    N=[3], TP=[0.13]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|------------------------------------------------------------|
CALIB NASHYD        ID=[3], NHYD=["INT-3"], DT=[1]min, AREA=[0.2](ha),
                    DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                    N=[3], TP=[0.05]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|------------------------------------------------------------|
CALIB NASHYD        ID=[4], NHYD=["UNC-1"], DT=[1]min, AREA=[0.8](ha),
                    DWF=[0](cms),  CN/C=[82], IA=[4.52](mm),
                    N=[3], TP=[0.28]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|------------------------------------------------------------|
*#-----------------|------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 825mm CULVERT       |
*#-----------------|------------------------------------------------------------|
ADD HYD             IDsum=[1], NHYD=["825mm"], IDs to add=[2,3,4]
*#-----------------|------------------------------------------------------------|
*#-----------------|------------------------------------------------------------|
*#-----------------|-----------OUTLET B-----------------------------------------|
*#-----------------|------------------------------------------------------------|
CALIB NASHYD        ID=[5], NHYD=["EXT-2"], DT=[1]min, AREA=[4.1](ha),
                    DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                    N=[3], TP=[0.12]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|------------------------------------------------------------|
CALIB NASHYD        ID=[8], NHYD=["EXT-3"], DT=[1]min, AREA=[2.2](ha),
                    DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                    N=[3], TP=[0.13]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|------------------------------------------------------------|
CALIB STANDHYD      ID=[6], NHYD=["INT-2"], DT=[1](min), AREA=[3](ha),
                    XIMP=[0.15], TIMP=[0.31], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[79],
                    Pervious   surfaces: IAper=[5](mm), SLPP=[2](%),
                                         LGP=[65](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2](mm), SLPI=[0.5](%),
                                         LGI=[141](m), MNI=[0.013], SCI=[0](min),
                    RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|------------------------------------------------------------|
CALIB NASHYD        ID=[7], NHYD=["INT-4"], DT=[1]min, AREA=[0.6](ha),
                    DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                    N=[3], TP=[0.05]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|------------------------------------------------------------|
CALIB STANDHYD      ID=[9], NHYD=["INT-1"], DT=[1](min), AREA=[8.60](ha),
                    XIMP=[0.168], TIMP=[0.431], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[79],
                    Pervious   surfaces: IAper=[5](mm), SLPP=[2](%),
                                         LGP=[65](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2](mm), SLPI=[0.5](%),
                                         LGI=[239](m), MNI=[0.013], SCI=[0](min),
                    RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|------------------------------------------------------------|
*#-----------------|------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE SWMF---------------|
*#-----------------|------------------------------------------------------------|
*#-----------------|------------------------------------------------------------|
ADD HYD             IDsum=[4], NHYD=["POOL1INT"], IDs to add=[5,8,6,7,9]
*#-----------------|------------------------------------------------------------|
CALIB STANDHYD      ID=[2], NHYD=["SWMF"], DT=[1](min), AREA=[0.8](ha),
                    XIMP=[0.5], TIMP=[0.5], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[79],
                    Pervious   surfaces: IAper=[5](mm), SLPP=[2](%),
                                         LGP=[20](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2](mm), SLPI=[2](%),
                                         LGI=[64](m), MNI=[0.013], SCI=[0](min),
                    RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|------------------------------------------------------------|
ADD HYD             IDsum=[3], NHYD=["POOL1"], IDs to add=[4,2]
*#-----------------|------------------------------------------------------------|
*#-----------------|------------------------------------------------------------|
ROUTE RESERVOIR     IDout=[6],   NHYD=["POOL"],  IDin=[3],
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                    (cms) - (ha-m)
                                  [ 0.0 ,    0.0]
```

```
                                          [ 0.012,  0.126]
                                          [ 0.024,  0.189]
                                          [ 0.042,  0.251]
                                          [ 0.117,  0.440]
                                          [ 0.215,  0.564]
                                          [ 0.292,  0.652]
                                          [ 0.376,  0.743]
                                          [ 0.514,  0.887]
                                          [ 0.949,  1.317]
                                          [ 1.009,  1.339]
                                          [ 1.105,  1.360]
                                          [   -1  ,  -1  ]  (max twenty pts)
                                IDovf=[7], NHYDovf=["OVF1"]
*#-----------------|-------------------------------------------------------------|
CALIB STANDHYD      ID=[10], NHYD=["UNC-2"], DT=[1](min), AREA=[1.5](ha),
                    XIMP=[0.075], TIMP=[0.221], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[79],
                    Pervious   surfaces: IAper=[5](mm), SLPP=[2](%),
                                         LGP=[65](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2](mm), SLPI=[0.5](%),
                                         LGI=[100](m), MNI=[0.013], SCI=[0](min),
                    RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD        ID=[4], NHYD=["UNC-3"], DT=[1]min, AREA=[2.0](ha),
                    DWF=[0](cms),  CN/C=[75.3], IA=[8.61](mm),
                    N=[3], TP=[0.05]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 900mm CULVERT-----|
*#-----------------|-------------------------------------------------------------|
ADD HYD             IDsum=[2], NHYD=["900mm"], IDs to add=[4,6,7,10]
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|-----------OUTLET C-------------------------------------------|
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD        ID=[4], NHYD=["EXT-4"], DT=[1]min, AREA=[2.6](ha),
                    DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                    N=[3], TP=[0.13]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD        ID=[5], NHYD=["EXT-5"], DT=[1]min, AREA=[5.2](ha),
                    DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                    N=[3], TP=[0.11]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD        ID=[8], NHYD=["INT-5"], DT=[1]min, AREA=[0.1](ha),
                    DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                    N=[3], TP=[0.05]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------THE ADD HYD MODELS FLOW TO WC21A--------------------|
*#-----------------|-------------------------------------------------------------|
ADD HYD             IDsum=[6], NHYD=["EXT4_5"], IDs to add=[4,5,8]
*#-----------------|-------------------------------------------------------------|
ROUTE CHANNEL       IDout=[5], NHYD=["WC21A"], IDin=[6],
                    RDT=[1](min),
                    CHLGTH=[730](m),  CHSLOPE=[5.5](%),
                                        FPSLOPE=[5.5](%),
                    SECNUM=[1.1],       NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=[0.07,4.8 -0.07,19.0 0.07,41] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=[0,220]
                                                   [4.8,217.5]
                                                   [19.0,215]
                                                   [34,217.5]
                                                   [41,220]
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD        ID=[4], NHYD=["UNC-4"], DT=[1]min, AREA=[3.10](ha),
                    DWF=[0](cms),  CN/C=[36.7], IA=[9.00](mm),
                    N=[3], TP=[0.30]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------THE ADD HYD MODELS FLOW TO WC21A AT SITE------------|
*#-----------------|-------------------------------------------------------------|
ADD HYD             IDsum=[3], NHYD=["EXT_UNC"], IDs to add=[5,4]
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD        ID=[7], NHYD=["Ext-6"], DT=[1]min, AREA=[6.0](ha),
                    DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                    N=[3], TP=[0.39]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD        ID=[9], NHYD=["Ext-7"], DT=[1]min, AREA=[6.0](ha),
                    DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                    N=[3], TP=[0.19]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD        ID=[10], NHYD=["Ext-8"], DT=[1]min, AREA=[13.1](ha),
                    DWF=[0](cms),  CN/C=[75.2], IA=[8.74](mm),
                    N=[3], TP=[0.40]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS SUBWATERSHED FLOW---------------|
*#-----------------|-------------------------------------------------------------|
ADD HYD             IDsum=[4], NHYD=["NE_DITCH"], IDs to add=[7,3,9,10]
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD        ID=[6], NHYD=["Ext-9"], DT=[1]min, AREA=[7.0](ha),
                    DWF=[0](cms),  CN/C=[76.8], IA=[8.06](mm),
                    N=[3], TP=[0.34]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS Subwatershed 21A Outflow--------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
ADD HYD             IDsum=[5], NHYD=["21A"], IDs to add=[4,6]
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD        ID=[4], NHYD=["Ext-10A"], DT=[1]min, AREA=[27.9](ha),
                    DWF=[0](cms),  CN/C=[56.0], IA=[8.70](mm),
                    N=[3], TP=[0.20]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD        ID=[3], NHYD=["Ext-11"], DT=[1]min, AREA=[3.9](ha),
                    DWF=[0](cms),  CN/C=[72.9], IA=[7.96](mm),
                    N=[3], TP=[0.08]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD        ID=[6], NHYD=["Ext-12"], DT=[1]min, AREA=[5.2](ha),
                    DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                    N=[3], TP=[0.18]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO EX. STORAGE AREA------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
ADD HYD             IDsum=[5], NHYD=["WET-STO"], IDs to add=[1,2,4,3,6]
*#-----------------|-------------------------------------------------------------|
ROUTE RESERVOIR     IDout=[4],   NHYD=["22"],  IDin=[5],
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                      (cms) - (ha-m)
                                    [   0.0 ,  0.0 ]
                                    [   0.0102 ,  0.002 ]
                                    [   0.04230 ,  0.004 ]
                                    [   0.0939 ,  0.006 ]
                                    [   0.1286 ,  0.008 ]
                                    [   0.16330 ,  0.045 ]
                                    [   0.2489 ,  0.262 ]
                                    [   0.3488 ,  0.622 ]
                                    [   0.4601 ,  1.088 ]
                                    [   0.51955 ,  1.623 ]
                                    [   0.579 ,  1.925 ]
                                    [   0.7014 ,  2.253 ]
                                    [   0.8216 ,  2.951 ]
                                    [   0.9345 ,  3.689 ]
                                    [   -1  ,  -1  ]  (max twenty pts)
                          IDovf=[6], NHYDovf=["OVF"]
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD        ID=[3], NHYD=["Ext-10B"], DT=[1]min, AREA=[4.9](ha),
                    DWF=[0](cms),  CN/C=[54.6], IA=[6.15](mm),
                    N=[3], TP=[0.17]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS SUBWATERSHED 22 OUTFLOW --------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
ADD HYD             IDsum=[5], NHYD=["22"], IDs to add=[3,4,6]
*%-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|----------100 YEAR KCHU-------------------------------------|
*#-----------------|-------------------------------------------------------------|
READ STORM          STORM_FILENAME=["100yr.stm"]
*%-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|-----------------POST-DEVELOPMENT--------------------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|--------------------OUTLET A-------------------------------|
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD        ID=[2], NHYD=["EXT-1"], DT=[1]min, AREA=[3.5](ha),
                    DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                    N=[3], TP=[0.13]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD        ID=[3], NHYD=["INT-3"], DT=[1]min, AREA=[0.2](ha),
                    DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                    N=[3], TP=[0.05]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD        ID=[4], NHYD=["UNC-1"], DT=[1]min, AREA=[0.8](ha),
                    DWF=[0](cms),  CN/C=[82], IA=[4.52](mm),
                    N=[3], TP=[0.28]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 825mm CULVERT     |
*#-----------------|-------------------------------------------------------------|
ADD HYD             IDsum=[1], NHYD=["825mm"], IDs to add=[2,3,4]
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|-----------OUTLET B-------------------------------------------|
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD        ID=[5], NHYD=["EXT-2"], DT=[1]min, AREA=[4.1](ha),
                    DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                    N=[3], TP=[0.12]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD        ID=[8], NHYD=["EXT-3"], DT=[1]min, AREA=[2.2](ha),
                    DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                    N=[3], TP=[0.13]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
CALIB STANDHYD      ID=[6], NHYD=["INT-2"], DT=[1](min), AREA=[3](ha),
                    XIMP=[0.15], TIMP=[0.31], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[79],
                    Pervious   surfaces: IAper=[5](mm), SLPP=[2](%),
                                         LGP=[65](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2](mm), SLPI=[0.5](%),
                                         LGI=[141](m), MNI=[0.013], SCI=[0](min),
                    RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD        ID=[7], NHYD=["INT-4"], DT=[1]min, AREA=[0.6](ha),
                    DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                    N=[3], TP=[0.05]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
CALIB STANDHYD      ID=[9], NHYD=["INT-1"], DT=[1](min), AREA=[8.60](ha),
                    XIMP=[0.168], TIMP=[0.431], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[79],
                    Pervious   surfaces: IAper=[5](mm), SLPP=[2](%),
                                         LGP=[65](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2](mm), SLPI=[0.5](%),
                                         LGI=[239](m), MNI=[0.013], SCI=[0](min),
                    RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE SWMF--------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
ADD HYD             IDsum=[4], NHYD=["POOL1INT"], IDs to add=[5,8,6,7,9]
*#-----------------|-------------------------------------------------------------|
CALIB STANDHYD      ID=[2], NHYD=["SWMF"], DT=[1](min), AREA=[0.8](ha),
                    XIMP=[0.5], TIMP=[0.5], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[79],
                    Pervious   surfaces: IAper=[5](mm), SLPP=[2](%),
                                         LGP=[20](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2](mm), SLPI=[2](%),
                                         LGI=[64](m), MNI=[0.013], SCI=[0](min),
                    RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|-------------------------------------------------------------|
ADD HYD             IDsum=[3], NHYD=["POOL1"], IDs to add=[4,2]
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
ROUTE RESERVOIR     IDout=[6],   NHYD=["POOL"],  IDin=[3],
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                      (cms) - (ha-m)
                                    [ 0.0 ,    0.0]
                                    [ 0.012,  0.126]
                                    [ 0.024,  0.189]
                                    [ 0.042,  0.251]
                                    [ 0.117,  0.440]
                                    [ 0.215,  0.564]
                                    [ 0.292,  0.652]
                                    [ 0.376,  0.743]
                                    [ 0.514,  0.887]
                                    [ 0.949,  1.317]
                                    [ 1.009,  1.339]
                                    [ 1.105,  1.360]
                                    [   -1  ,  -1  ]  (max twenty pts)
                          IDovf=[7], NHYDovf=["OVF1"]
*#-----------------|-------------------------------------------------------------|
CALIB STANDHYD      ID=[10], NHYD=["UNC-2"], DT=[1](min), AREA=[1.5](ha),
                    XIMP=[0.075], TIMP=[0.221], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[79],
                    Pervious   surfaces: IAper=[5](mm), SLPP=[2](%),
                                         LGP=[65](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2](mm), SLPI=[0.5](%),
                                         LGI=[100](m), MNI=[0.013], SCI=[0](min),
                    RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD        ID=[4], NHYD=["UNC-3"], DT=[1]min, AREA=[2.0](ha),
                    DWF=[0](cms),  CN/C=[75.3], IA=[8.61](mm),
                    N=[3], TP=[0.05]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 900mm CULVERT-----|
*#-----------------|-------------------------------------------------------------|
ADD HYD             IDsum=[2], NHYD=["900mm"], IDs to add=[4,6,7,10]
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|-----------OUTLET C-------------------------------------------|
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD        ID=[4], NHYD=["EXT-4"], DT=[1]min, AREA=[2.6](ha),
                    DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                    N=[3], TP=[0.13]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD        ID=[5], NHYD=["EXT-5"], DT=[1]min, AREA=[5.2](ha),
                    DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                    N=[3], TP=[0.11]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD        ID=[8], NHYD=["INT-5"], DT=[1]min, AREA=[0.1](ha),
                    DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                    N=[3], TP=[0.05]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------THE ADD HYD MODELS FLOW TO WC21A--------------------|
*#-----------------|-------------------------------------------------------------|
ADD HYD             IDsum=[6], NHYD=["EXT4_5"], IDs to add=[4,5,8]
*#-----------------|-------------------------------------------------------------|
ROUTE CHANNEL       IDout=[5], NHYD=["WC21A"], IDin=[6],
                    RDT=[1](min),
                    CHLGTH=[730](m),  CHSLOPE=[5.5](%),
                                        FPSLOPE=[5.5](%),
                    SECNUM=[1.1],       NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=[0.07,4.8 -0.07,19.0 0.07,41] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=[0,220]
                                                   [4.8,217.5]
                                                   [19.0,215]
                                                   [34,217.5]
                                                   [41,220]
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD        ID=[4], NHYD=["UNC-4"], DT=[1]min, AREA=[3.10](ha),
                    DWF=[0](cms),  CN/C=[36.7], IA=[9.00](mm),
                    N=[3], TP=[0.30]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------THE ADD HYD MODELS FLOW TO WC21A AT SITE------------|
*#-----------------|-------------------------------------------------------------|
ADD HYD             IDsum=[3], NHYD=["EXT_UNC"], IDs to add=[5,4]
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD        ID=[7], NHYD=["Ext-6"], DT=[1]min, AREA=[6.0](ha),
                    DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                    N=[3], TP=[0.39]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD        ID=[9], NHYD=["Ext-7"], DT=[1]min, AREA=[6.0](ha),
                    DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                    N=[3], TP=[0.19]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD        ID=[10], NHYD=["Ext-8"], DT=[1]min, AREA=[13.1](ha),
                    DWF=[0](cms),  CN/C=[75.2], IA=[8.74](mm),
                    N=[3], TP=[0.40]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS SUBWATERSHED FLOW---------------|
*#-----------------|-------------------------------------------------------------|
ADD HYD             IDsum=[4], NHYD=["NE_DITCH"], IDs to add=[7,3,9,10]
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD        ID=[6], NHYD=["Ext-9"], DT=[1]min, AREA=[7.0](ha),
                    DWF=[0](cms),  CN/C=[76.8], IA=[8.06](mm),
                    N=[3], TP=[0.34]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS Subwatershed 21A Outflow--------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
ADD HYD             IDsum=[5], NHYD=["21A"], IDs to add=[4,6]
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD        ID=[4], NHYD=["Ext-10A"], DT=[1]min, AREA=[27.9](ha),
                    DWF=[0](cms),  CN/C=[56.0], IA=[8.70](mm),
                    N=[3], TP=[0.20]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD        ID=[3], NHYD=["Ext-11"], DT=[1]min, AREA=[3.9](ha),
                    DWF=[0](cms),  CN/C=[72.9], IA=[7.96](mm),
                    N=[3], TP=[0.08]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
```

```
*#-----------------|------------------------------------------------------------|
CALIB NASHYD        ID=[6], NHYD=["Ext-12"], DT=[1]min, AREA=[5.2](ha),
                    DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                    N=[3], TP=[0.18]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|------------------------------------------------------------|
*#-----------------|------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO EX. STORAGE AREA------|
*#-----------------|------------------------------------------------------------|
*#-----------------|------------------------------------------------------------|
ADD HYD             IDsum=[5], NHYD=["WET-STO"], IDs to add=[1,2,4,3,6]
*#-----------------|------------------------------------------------------------|
ROUTE RESERVOIR     IDout=[4],   NHYD=["22"],  IDin=[5],
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                    (cms) - (ha-m)
                                  [   0.0 ,  0.0 ]
                                  [   0.0102 ,  0.002 ]
                                  [   0.04230 ,  0.004 ]
                                  [   0.0939 ,  0.006 ]
                                  [   0.1286 ,  0.008 ]
                                  [   0.16330 ,  0.045 ]
                                  [   0.2489 ,  0.262 ]
                                  [   0.3488 ,  0.622 ]
                                  [   0.4601 ,  1.088 ]
                                  [   0.51955 ,  1.623 ]
                                  [   0.579 ,  1.925 ]
                                  [   0.7014 ,  2.253 ]
                                  [   0.8216 ,  2.951 ]
                                  [   0.9345 ,  3.689 ]
                                  [   -1  ,  -1  ]  (max twenty pts)
                          IDovf=[6], NHYDovf=["OVF"]
*#-----------------|------------------------------------------------------------|
CALIB NASHYD        ID=[3], NHYD=["Ext-10B"], DT=[1]min, AREA=[4.9](ha),
                    DWF=[0](cms),  CN/C=[54.6], IA=[6.15](mm),
                    N=[3], TP=[0.17]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|------------------------------------------------------------|
*#-----------------|------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS SUBWATERSHED 22 OUTFLOW --------|
*#-----------------|------------------------------------------------------------|
*#-----------------|------------------------------------------------------------|
ADD HYD             IDsum=[5], NHYD=["22"], IDs to add=[3,4,6]
*%-----------------|------------------------------------------------------------|


FINISH


```

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

 SSSSS   W   W    M   M    H   H    Y   Y    M   M     OOO          222     000    11   77777 =========
 S       W W W    MM MM    H   H     Y Y     MM MM    O   O           2    0   0   11   7   7
 SSSSS   W W W    M M M    HHHHH      Y      M M M    O   O           2    0   0   11       7 Ver4.05.0
     S    W W     M   M    H   H      Y      M   M    O   O         222    0   0   11      7  APR 2017
 SSSSS    W W     M   M    H   H      Y      M   M     OOO          2      0   0   11     7   =========
                                                                    2      0   0   11    7    # 3737016
       StormWater Management HYdrologic Model                        222     000    11    7    =========

 *******************************************************************************************
 **************************************** SWMHYMO Ver4.05.0 ********************************
 *****************  A single event and continuous hydrologic simulation model  *************
 *****************     based on the principles of HYMO and its successors      *************
 *****************                  OTTHYMO-83 and OTTHYMO-89.                 *************
 *******************************************************************************************
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 *****************                  E-Mail: swmhymo@jfsa.com                   *************
 *******************************************************************************************

 +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
 +++++++++++++++++ Licensed user: C.F. Crozier & Associates Inc.             +++++++++++++++
 +++++++++++++++++                 Collingwood            SERIAL#:3737016    +++++++++++++++
 +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++

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


 ********************************  S U M M A R Y   O U T P U T  ***************************
 *******************************************************************************************
 *                 RUN DATE: 2022-02-10     TIME: 15:39:41     RUN COUNTER: 000004         *
 *******************************************************************************************
 * Input   file: J:\100\119 - Tabera Ltd\2528\Design\SWM\Fourth Submission\SWMHYMO Model\2022.01.1*
 *               9 - regional control\Craigleith_KCHU\POST_KCHU regional final.Dat            *
 * Output  file: J:\100\119 - Tabera Ltd\2528\Design\SWM\Fourth Submission\SWMHYMO Model\2022.01.1*
 *               9 - regional control\Craigleith_KCHU\POST_KCHU regional final.out            *
 * Summary file: J:\100\119 - Tabera Ltd\2528\Design\SWM\Fourth Submission\SWMHYMO Model\2022.01.1*
 *               9 - regional control\Craigleith_KCHU\POST_KCHU regional final.sum            *
 * User comments:                                                                             *
 * 1:_________________________________________________________________________________________*
 * 2:_________________________________________________________________________________________*
 * 3:_________________________________________________________________________________________*
 *******************************************************************************************


#*************************************************************************************
#  Project Name: [ALTA PHASE-II]    Project Number: [119-2528]
#  Date         : 2021.06.30
#  Modified     : 2022.01.07
#  Modeller     : [J. Kerschbaumer]
#  Company      : C.F. Crozier & Associates Inc.
#  License #    : 3737016
#*************************************************************************************
 RUN#:COMMAND#
R0001:C00001------------------------------------------------------------------------------------
     START
       [TZERO =     .00 hrs on        0]
       [METOUT=   2    (1=imperial, 2=metric output)]
       [NSTORM=   0 ]
       [NRUN  = 0001 ]
#-----------------|-------------------------------------------------------|
#-----------------|----------2 YEAR KCHU----------------------------------|
#-----------------|-------------------------------------------------------|
R0001:C00002------------------------------------------------------------------------------------
     READ STORM
       Filename = 2yr.stm
       Comment  = 2-Year 6 hr Kefer Chu Chicago Storm Event
       [SDT=60.00:SDUR=   6.00:PTOT=  37.90]
#-----------------|-------------------------------------------------------|
#-----------------|------------------POST-DEVELOPMENT---------------------|
#-----------------|-------------------------------------------------------|
#-----------------|--------------------OUTLET A---------------------------|
#-----------------|-------------------------------------------------------|
R0001:C00003------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 02:EXT-1          3.50     .068 No_date    3:01    6.39 .169      .000
      [CN= 73.0: N= 3.00: Tp=  .13]
#-----------------|-------------------------------------------------------|
R0001:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 03:INT-3           .20     .004 No_date    3:00    6.39 .169      .000
      [CN= 73.0: N= 3.00: Tp=  .05]
#-----------------|-------------------------------------------------------|
R0001:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 04:UNC-1           .80     .023 No_date    3:05   12.50 .330      .000
      [CN= 82.0: N= 3.00: Tp=  .28]
#-----------------|-------------------------------------------------------|
#-----------------|-------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 825mm CULVERT  |
#-----------------|-------------------------------------------------------|
R0001:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:EXT-1          3.50     .068 No_date    3:01    6.39  n/a      .000
                     +    1.0 03:INT-3           .20     .004 No_date    3:00    6.39  n/a      .000
                     +    1.0 04:UNC-1           .80     .023 No_date    3:05   12.50  n/a      .000
                  SUM=    1.0 01:825mm          4.50     .095 No_date    3:01    7.48  n/a      .000
#-----------------|-------------------------------------------------------|
#-----------------|-------------------------------------------------------|
#-----------------|-----------OUTLET B------------------------------------|
#-----------------|-------------------------------------------------------|
#-----------------|-------------------------------------------------------|
R0001:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 05:EXT-2          4.10     .081 No_date    3:01    6.39 .169      .000
      [CN= 73.0: N= 3.00: Tp=  .12]
#-----------------|-------------------------------------------------------|
R0001:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 08:EXT-3          2.20     .043 No_date    3:01    6.39 .169      .000
      [CN= 73.0: N= 3.00: Tp=  .13]
R0001:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB STANDHYD        1.0 06:INT-2          3.00     .084 No_date    3:02   16.37 .432      .000
      [XIMP=.15:TIMP=.31]
      [LOSS= 2 :CN= 79.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  65.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI= .50:LGI= 141.:MNI=.013:SCI=   .0]
#-----------------|-------------------------------------------------------|
R0001:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 07:INT-4           .60     .013 No_date    3:00    6.39 .169      .000
      [CN= 73.0: N= 3.00: Tp=  .05]
#-----------------|-------------------------------------------------------|
R0001:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB STANDHYD        1.0 09:INT-1          8.60     .242 No_date    3:04   16.88 .445      .000
      [XIMP=.16:TIMP=.34]
      [LOSS= 2 :CN= 79.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  65.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI= .50:LGI= 245.:MNI=.013:SCI=   .0]
#-----------------|-------------------------------------------------------|
#-----------------|-------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE SWMF----------|
#-----------------|-------------------------------------------------------|
#-----------------|-------------------------------------------------------|
R0001:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 05:EXT-2          4.10     .081 No_date    3:01    6.39  n/a      .000
                     +    1.0 08:EXT-3          2.20     .043 No_date    3:01    6.39  n/a      .000
                     +    1.0 06:INT-2          3.00     .084 No_date    3:02   16.37  n/a      .000
                     +    1.0 07:INT-4           .60     .013 No_date    3:00    6.39  n/a      .000
                     +    1.0 09:INT-1          8.60     .242 No_date    3:04   16.88  n/a      .000
                  SUM=    1.0 04:POOL1INT      18.50     .460 No_date    3:01   12.89  n/a      .000
#-----------------|-------------------------------------------------------|
R0001:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB STANDHYD        1.0 02:SWMF            .80     .038 No_date    3:00   23.34 .616      .000
      [XIMP=.50:TIMP=.50]
      [LOSS= 2 :CN= 79.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  20.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI=2.00:LGI=  64.:MNI=.013:SCI=   .0]
#-----------------|-------------------------------------------------------|
R0001:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 04:POOL1INT      18.50     .460 No_date    3:01   12.89  n/a      .000
                     +    1.0 02:SWMF            .80     .038 No_date    3:00   23.34  n/a      .000
                  SUM=    1.0 03:POOL1         19.30     .497 No_date    3:01   13.32  n/a      .000
#-----------------|-------------------------------------------------------|
#-----------------|-------------------------------------------------------|
R0001:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 03:POOL1         19.30     .497 No_date    3:01   13.32  n/a      .000
                 out <=   1.0 06:POOL          19.30     .033 No_date    6:09   13.32  n/a      .000
            overflow <=   1.0 07:OVF1            .00     .000 No_date    0:00     .00  n/a      .000
      {MxStoUsed=.2206E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
#-----------------|-------------------------------------------------------|
R0001:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB STANDHYD        1.0 10:UNC-2          1.50     .037 No_date    3:03   14.29 .377      .000
      [XIMP=.08:TIMP=.22]
      [LOSS= 2 :CN= 79.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  65.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI= .50:LGI= 100.:MNI=.013:SCI=   .0]
#-----------------|-------------------------------------------------------|
R0001:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 04:UNC-3          2.00     .051 No_date    3:00    7.62 .201      .000
      [CN= 75.3: N= 3.00: Tp=  .05]
#-----------------|-------------------------------------------------------|
#-----------------|-------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 900mm CULVERT-----|
#-----------------|-------------------------------------------------------|
R0001:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 04:UNC-3          2.00     .051 No_date    3:00    7.62  n/a      .000
                     +    1.0 06:POOL          19.30     .033 No_date    6:09   13.32  n/a      .000
                     +    1.0 07:OVF1            .00     .000 No_date    0:00     .00  n/a      .000
                     +    1.0 10:UNC-2          1.50     .037 No_date    3:03   14.29  n/a      .000
                  SUM=    1.0 02:900mm         22.80     .096 No_date    3:00   12.88  n/a      .000
#-----------------|-------------------------------------------------------|
#-----------------|-------------------------------------------------------|
#-----------------|-----------OUTLET C------------------------------------|
#-----------------|-------------------------------------------------------|
R0001:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 04:EXT-4          2.60     .051 No_date    3:01    6.39 .169      .000
      [CN= 73.0: N= 3.00: Tp=  .13]
#-----------------|-------------------------------------------------------|
R0001:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 05:EXT-5          5.20     .105 No_date    3:01    6.39 .169      .000
      [CN= 73.0: N= 3.00: Tp=  .11]
#-----------------|-------------------------------------------------------|
R0001:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 08:INT-5           .10     .002 No_date    3:00    6.39 .169      .000
      [CN= 73.0: N= 3.00: Tp=  .05]
#-----------------|-------------------------------------------------------|
#-----------------|-------------------------------------------------------|
#-----------------|-------THE ADD HYD MODELS FLOW TO WC21A-----------------|
#-----------------|-------------------------------------------------------|
R0001:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 04:EXT-4          2.60     .051 No_date    3:01    6.39  n/a      .000
                     +    1.0 05:EXT-5          5.20     .105 No_date    3:01    6.39  n/a      .000
                     +    1.0 08:INT-5           .10     .002 No_date    3:00    6.39  n/a      .000
                  SUM=    1.0 06:EXT4_5         7.90     .158 No_date    3:01    6.39  n/a      .000
#-----------------|-------------------------------------------------------|
R0001:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 06:EXT4_5         7.90     .158 No_date    3:01    6.39  n/a      .000
      [RDT= 1.00] out<-   1.0 05:WC21A          7.90     .122 No_date    3:06    6.39  n/a      .000
      [L/S/n=  730./5.500/.070]
      {Vmax=  .858:Dmax=  .119}
#-----------------|-------------------------------------------------------|
R0001:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 04:UNC-4          3.10     .012 No_date    3:08    1.79 .047      .000
      [CN= 36.7: N= 3.00: Tp=  .30]
#-----------------|-------------------------------------------------------|
#-----------------|-------THE ADD HYD MODELS FLOW TO WC21A AT SITE---------|
#-----------------|-------------------------------------------------------|
R0001:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 05:WC21A          7.90     .122 No_date    3:06    6.39  n/a      .000
                     +    1.0 04:UNC-4          3.10     .012 No_date    3:08    1.79  n/a      .000
                  SUM=    1.0 03:EXT_UNC       11.00     .134 No_date    3:06    5.09  n/a      .000
#-----------------|-------------------------------------------------------|
#-----------------|-------------------------------------------------------|
R0001:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 07:Ext-6          6.00     .075 No_date    3:13    6.39 .169      .000
      [CN= 73.0: N= 3.00: Tp=  .39]
#-----------------|-------------------------------------------------------|
R0001:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 09:Ext-7          6.00     .106 No_date    3:03    6.39 .169      .000
      [CN= 73.0: N= 3.00: Tp=  .19]
#-----------------|-------------------------------------------------------|
R0001:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 10:Ext-8         13.10     .191 No_date    3:13    7.53 .199      .000
      [CN= 75.2: N= 3.00: Tp=  .40]
#-----------------|-------------------------------------------------------|
#-----------------|-------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS SUBWATERSHED FLOW-----------|
#-----------------|-------------------------------------------------------|
R0001:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 07:Ext-6          6.00     .075 No_date    3:13    6.39  n/a      .000
                     +    1.0 03:EXT_UNC       11.00     .134 No_date    3:06    5.09  n/a      .000
                     +    1.0 09:Ext-7          6.00     .106 No_date    3:03    6.39  n/a      .000
                     +    1.0 10:Ext-8         13.10     .191 No_date    3:13    7.53  n/a      .000
                  SUM=    1.0 04:NE_DITCH      36.10     .489 No_date    3:07    6.41  n/a      .000
#-----------------|-------------------------------------------------------|
R0001:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 06:Ext-9          7.00     .125 No_date    3:09    8.36 .220      .000
      [CN= 76.8: N= 3.00: Tp=  .34]
#-----------------|-------------------------------------------------------|
#-----------------|-------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS Subwatershed 21A Outflow----|
#-----------------|-------------------------------------------------------|
#-----------------|-------------------------------------------------------|
R0001:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 04:NE_DITCH      36.10     .489 No_date    3:07    6.41  n/a      .000
                     +    1.0 06:Ext-9          7.00     .125 No_date    3:09    8.36  n/a      .000
                  SUM=    1.0 05:21A           43.10     .614 No_date    3:08    6.72  n/a      .000
#-----------------|-------------------------------------------------------|
R0001:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 04:Ext-10A       27.90     .276 No_date    3:04    3.73 .098      .000
      [CN= 56.0: N= 3.00: Tp=  .20]
#-----------------|-------------------------------------------------------|
R0001:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 03:Ext-11         3.90     .089 No_date    3:00    7.21 .190      .000
      [CN= 72.9: N= 3.00: Tp=  .08]
#-----------------|-------------------------------------------------------|
R0001:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 06:Ext-12         5.20     .093 No_date    3:03    6.39 .169      .000
      [CN= 73.0: N= 3.00: Tp=  .18]
#-----------------|-------------------------------------------------------|
#-----------------|-------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO EX. STORAGE AREA------|
#-----------------|-------------------------------------------------------|
#-----------------|-------------------------------------------------------|
R0001:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 01:825mm          4.50     .095 No_date    3:01    7.48  n/a      .000
                     +    1.0 02:900mm         22.80     .096 No_date    3:00   12.88  n/a      .000
                     +    1.0 04:Ext-10A       27.90     .276 No_date    3:04    3.73  n/a      .000
                     +    1.0 03:Ext-11         3.90     .089 No_date    3:00    7.21  n/a      .000
                     +    1.0 06:Ext-12         5.20     .093 No_date    3:03    6.39  n/a      .000
                  SUM=    1.0 05:WET-STO       64.30     .637 No_date    3:01    7.66  n/a      .000
#-----------------|-------------------------------------------------------|
R0001:C00036------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 05:WET-STO       64.30     .637 No_date    3:01    7.66  n/a      .000
                 out <=   1.0 04:22            64.30     .183 No_date    3:36    7.66  n/a      .000
            overflow <=   1.0 06:OVF             .00     .000 No_date    0:00     .00  n/a      .000
      {MxStoUsed=.9410E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
#-----------------|-------------------------------------------------------|
R0001:C00037------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 03:Ext-10B        4.90     .055 No_date    3:02    4.15 .109      .000
      [CN= 54.6: N= 3.00: Tp=  .17]
#-----------------|-------------------------------------------------------|
#-----------------|-------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS SUBWATERSHED 22 OUTFLOW --------|
#-----------------|-------------------------------------------------------|
#-----------------|-------------------------------------------------------|
R0001:C00038------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 03:Ext-10B        4.90     .055 No_date    3:02    4.15  n/a      .000
                     +    1.0 04:22            64.30     .183 No_date    3:36    7.66  n/a      .000
                     +    1.0 06:OVF             .00     .000 No_date    0:00     .00  n/a      .000
                  SUM=    1.0 05:22            69.20     .226 No_date    3:04    7.41  n/a      .000
#-----------------|-------------------------------------------------------|
#-----------------|----------5 YEAR KCHU----------------------------------|
#-----------------|-------------------------------------------------------|
R0001:C00039------------------------------------------------------------------------------------
     READ STORM
       Filename = 5yr.stm
       Comment  = 5-Year 6 hr Kifer Chu Chicago Storm Event
       [SDT=60.00:SDUR=   6.00:PTOT=  52.70]
#-----------------|-------------------------------------------------------|
#-----------------|------------------POST-DEVELOPMENT---------------------|
#-----------------|-------------------------------------------------------|
#-----------------|--------------------OUTLET A---------------------------|
#-----------------|-------------------------------------------------------|
R0001:C00040------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 02:EXT-1          3.50     .131 No_date    3:01   13.34 .253      .000
      [CN= 73.0: N= 3.00: Tp=  .13]
#-----------------|-------------------------------------------------------|
R0001:C00041------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 03:INT-3           .20     .008 No_date    3:00   13.34 .253      .000
      [CN= 73.0: N= 3.00: Tp=  .05]
#-----------------|-------------------------------------------------------|
R0001:C00042------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 04:UNC-1           .80     .039 No_date    3:05   22.33 .424      .000
      [CN= 82.0: N= 3.00: Tp=  .28]
#-----------------|-------------------------------------------------------|
#-----------------|-------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 825mm CULVERT  |
#-----------------|-------------------------------------------------------|
R0001:C00043------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:EXT-1          3.50     .131 No_date    3:01   13.34  n/a      .000
                     +    1.0 03:INT-3           .20     .008 No_date    3:00   13.34  n/a      .000
                     +    1.0 04:UNC-1           .80     .039 No_date    3:05   22.33  n/a      .000
                  SUM=    1.0 01:825mm          4.50     .177 No_date    3:01   14.94  n/a      .000
#-----------------|-------------------------------------------------------|
#-----------------|-------------------------------------------------------|
#-----------------|-----------OUTLET B------------------------------------|
#-----------------|-------------------------------------------------------|
R0001:C00044------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 05:EXT-2          4.10     .155 No_date    3:01   13.34 .253      .000
      [CN= 73.0: N= 3.00: Tp=  .12]
#-----------------|-------------------------------------------------------|
R0001:C00045------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 08:EXT-3          2.20     .082 No_date    3:01   13.34 .253      .000
      [CN= 73.0: N= 3.00: Tp=  .13]
#-----------------|-------------------------------------------------------|
R0001:C00046------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB STANDHYD        1.0 06:INT-2          3.00     .149 No_date    3:02   27.04 .513      .000
      [XIMP=.15:TIMP=.31]
      [LOSS= 2 :CN= 79.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  65.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI= .50:LGI= 141.:MNI=.013:SCI=   .0]
#-----------------|-------------------------------------------------------|
R0001:C00047------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 07:INT-4           .60     .025 No_date    3:00   13.34 .253      .000
      [CN= 73.0: N= 3.00: Tp=  .05]
#-----------------|-------------------------------------------------------|
R0001:C00048------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB STANDHYD        1.0 09:INT-1          8.60     .425 No_date    3:03   27.74 .526      .000
      [XIMP=.16:TIMP=.34]
      [LOSS= 2 :CN= 79.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  65.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI= .50:LGI= 245.:MNI=.013:SCI=   .0]
#-----------------|-------------------------------------------------------|
#-----------------|-------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE SWMF----------|
#-----------------|-------------------------------------------------------|
#-----------------|-------------------------------------------------------|
R0001:C00049------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 05:EXT-2          4.10     .155 No_date    3:01   13.34  n/a      .000
                     +    1.0 08:EXT-3          2.20     .082 No_date    3:01   13.34  n/a      .000
                     +    1.0 06:INT-2          3.00     .149 No_date    3:02   27.04  n/a      .000
                     +    1.0 07:INT-4           .60     .025 No_date    3:00   13.34  n/a      .000
```

```
                     +     1.0 09:INT-1          8.60      .425 No_date    3:03   27.74  n/a      .000
                  SUM=     1.0 04:POOL1INT      18.50      .831 No_date    3:01   22.26  n/a      .000
#-----------------|------------------------------------------------------------|
R0001:C00050------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB STANDHYD        1.0 02:SWMF            .80      .057 No_date    3:00   35.22 .668      .000
        [XIMP=.50:TIMP=.50]
        [LOSS= 2 :CN= 79.0]
        [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  20.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 2.00:SLPI=2.00:LGI=  64.:MNI=.013:SCI=   .0]
#-----------------|------------------------------------------------------------|
R0001:C00051------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 04:POOL1INT      18.50      .831 No_date    3:01   22.26  n/a      .000
                     +     1.0 02:SWMF            .80      .057 No_date    3:00   35.22  n/a      .000
                  SUM=     1.0 03:POOL1         19.30      .884 No_date    3:01   22.79  n/a      .000
#-----------------|------------------------------------------------------------|
#-----------------|------------------------------------------------------------|
R0001:C00052------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 03:POOL1         19.30      .884 No_date    3:01   22.79  n/a      .000
                out <=     1.0 06:POOL          19.30      .082 No_date    5:35   22.79  n/a      .000
           overflow <=     1.0 07:OVF1            .00      .000 No_date    0:00     .00  n/a      .000
       {MxStoUsed=.3515E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
#-----------------|------------------------------------------------------------|
R0001:C00053------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB STANDHYD        1.0 10:UNC-2          1.50      .069 No_date    3:02   24.45 .464      .000
        [XIMP=.08:TIMP=.22]
        [LOSS= 2 :CN= 79.0]
        [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  65.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 2.00:SLPI= .50:LGI= 100.:MNI=.013:SCI=   .0]
#-----------------|------------------------------------------------------------|
R0001:C00054------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD          1.0 04:UNC-3          2.00      .091 No_date    3:00   15.26 .290      .000
        [CN= 75.3: N= 3.00: Tp=  .05]
#-----------------|------------------------------------------------------------|
#-----------------|------------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 900mm CULVERT-----|
#-----------------|------------------------------------------------------------|
R0001:C00055------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 04:UNC-3          2.00      .091 No_date    3:00   15.26  n/a      .000
                     +     1.0 06:POOL          19.30      .082 No_date    5:35   22.79  n/a      .000
                     +     1.0 07:OVF1            .00      .000 No_date    0:00     .00  n/a      .000
                     +     1.0 10:UNC-2          1.50      .069 No_date    3:02   24.45  n/a      .000
                  SUM=     1.0 02:900mm         22.80      .181 No_date    3:00   22.24  n/a      .000
#-----------------|------------------------------------------------------------|
#-----------------|------------------------------------------------------------|
#-----------------|-----------OUTLET C-----------------------------------------|
#-----------------|------------------------------------------------------------|
R0001:C00056------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD          1.0 04:EXT-4          2.60      .097 No_date    3:01   13.34 .253      .000
        [CN= 73.0: N= 3.00: Tp=  .13]
#-----------------|------------------------------------------------------------|
R0001:C00057------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD          1.0 05:EXT-5          5.20      .199 No_date    3:01   13.34 .253      .000
        [CN= 73.0: N= 3.00: Tp=  .11]
#-----------------|------------------------------------------------------------|
R0001:C00058------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD          1.0 08:INT-5           .10      .004 No_date    3:00   13.34 .253      .000
        [CN= 73.0: N= 3.00: Tp=  .05]
#-----------------|------------------------------------------------------------|
#-----------------|------------------------------------------------------------|
#-----------------|-------THE ADD HYD MODELS FLOW TO WC21A-------------------|
#-----------------|------------------------------------------------------------|
R0001:C00059------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 04:EXT-4          2.60      .097 No_date    3:01   13.34  n/a      .000
                     +     1.0 05:EXT-5          5.20      .199 No_date    3:01   13.34  n/a      .000
                     +     1.0 08:INT-5           .10      .004 No_date    3:00   13.34  n/a      .000
                  SUM=     1.0 06:EXT4_5         7.90      .300 No_date    3:01   13.34  n/a      .000
#-----------------|------------------------------------------------------------|
R0001:C00060------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    1.0 06:EXT4_5         7.90      .300 No_date    3:01   13.34  n/a      .000
      [RDT= 1.00] out<-    1.0 05:WC21A          7.90      .243 No_date    3:06   13.34  n/a      .000
        [L/S/n=  730./5.500/.070]
        {Vmax=  .858:Dmax=  .227}
#-----------------|------------------------------------------------------------|
R0001:C00061------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD          1.0 04:UNC-4          3.10      .026 No_date    3:07    3.96 .075      .000
        [CN= 36.7: N= 3.00: Tp=  .30]
#-----------------|------------------------------------------------------------|
#-----------------|-------THE ADD HYD MODELS FLOW TO WC21A AT SITE------------|
#-----------------|------------------------------------------------------------|
R0001:C00062------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 05:WC21A          7.90      .243 No_date    3:06   13.34  n/a      .000
                     +     1.0 04:UNC-4          3.10      .026 No_date    3:07    3.96  n/a      .000
                  SUM=     1.0 03:EXT_UNC       11.00      .269 No_date    3:06   10.70  n/a      .000
#-----------------|------------------------------------------------------------|
#-----------------|------------------------------------------------------------|
R0001:C00063------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD          1.0 07:Ext-6          6.00      .154 No_date    3:11   13.34 .253      .000
        [CN= 73.0: N= 3.00: Tp=  .39]
#-----------------|------------------------------------------------------------|
R0001:C00064------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD          1.0 09:Ext-7          6.00      .207 No_date    3:03   13.34 .253      .000
        [CN= 73.0: N= 3.00: Tp=  .19]
#-----------------|------------------------------------------------------------|
R0001:C00065------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD          1.0 10:Ext-8         13.10      .377 No_date    3:11   15.13 .287      .000
        [CN= 75.2: N= 3.00: Tp=  .40]
#-----------------|------------------------------------------------------------|
#-----------------|------------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS SUBWATERSHED FLOW--------------|
#-----------------|------------------------------------------------------------|
R0001:C00066------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 07:Ext-6          6.00      .154 No_date    3:11   13.34  n/a      .000
                     +     1.0 03:EXT_UNC       11.00      .269 No_date    3:06   10.70  n/a      .000
                     +     1.0 09:Ext-7          6.00      .207 No_date    3:03   13.34  n/a      .000
                     +     1.0 10:Ext-8         13.10      .377 No_date    3:11   15.13  n/a      .000
                  SUM=     1.0 04:NE_DITCH      36.10      .980 No_date    3:06   13.19  n/a      .000
#-----------------|------------------------------------------------------------|
R0001:C00067------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD          1.0 06:Ext-9          7.00      .238 No_date    3:08   16.42 .312      .000
        [CN= 76.8: N= 3.00: Tp=  .34]
#-----------------|------------------------------------------------------------|
#-----------------|------------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS Subwatershed 21A Outflow--------|
#-----------------|------------------------------------------------------------|
#-----------------|------------------------------------------------------------|
R0001:C00068------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 04:NE_DITCH      36.10      .980 No_date    3:06   13.19  n/a      .000
                     +     1.0 06:Ext-9          7.00      .238 No_date    3:08   16.42  n/a      .000
                  SUM=     1.0 05:21A           43.10     1.217 No_date    3:07   13.71  n/a      .000
#-----------------|------------------------------------------------------------|
R0001:C00069------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD          1.0 04:Ext-10A       27.90      .554 No_date    3:03    7.95 .151      .000
        [CN= 56.0: N= 3.00: Tp=  .20]
#-----------------|------------------------------------------------------------|
R0001:C00070------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD          1.0 03:Ext-11         3.90      .161 No_date    3:00   14.38 .273      .000
        [CN= 72.9: N= 3.00: Tp=  .08]
#-----------------|------------------------------------------------------------|
R0001:C00071------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD          1.0 06:Ext-12         5.20      .182 No_date    3:02   13.34 .253      .000
        [CN= 73.0: N= 3.00: Tp=  .18]
#-----------------|------------------------------------------------------------|
#-----------------|------------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO EX. STORAGE AREA------|
#-----------------|------------------------------------------------------------|
#-----------------|------------------------------------------------------------|
R0001:C00072------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 01:825mm          4.50      .177 No_date    3:01   14.94  n/a      .000
                     +     1.0 02:900mm         22.80      .181 No_date    3:00   22.24  n/a      .000
                     +     1.0 04:Ext-10A       27.90      .554 No_date    3:03    7.95  n/a      .000
                     +     1.0 03:Ext-11         3.90      .161 No_date    3:00   14.38  n/a      .000
                     +     1.0 06:Ext-12         5.20      .182 No_date    3:02   13.34  n/a      .000
                  SUM=     1.0 05:WET-STO       64.30     1.238 No_date    3:01   14.33  n/a      .000
#-----------------|------------------------------------------------------------|
R0001:C00073------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 05:WET-STO       64.30     1.238 No_date    3:01   14.33  n/a      .000
                out <=     1.0 04:22            64.30      .250 No_date    4:20   14.33  n/a      .000
           overflow <=     1.0 06:OVF             .00      .000 No_date    0:00     .00  n/a      .000
       {MxStoUsed=.2666E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
#-----------------|------------------------------------------------------------|
R0001:C00074------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD          1.0 03:Ext-10B        4.90      .105 No_date    3:02    8.41 .160      .000
        [CN= 54.6: N= 3.00: Tp=  .17]
#-----------------|------------------------------------------------------------|
#-----------------|------------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS SUBWATERSHED 22 OUTFLOW --------|
#-----------------|------------------------------------------------------------|
#-----------------|------------------------------------------------------------|
R0001:C00075------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 03:Ext-10B        4.90      .105 No_date    3:02    8.41  n/a      .000
                     +     1.0 04:22            64.30      .250 No_date    4:20   14.33  n/a      .000
                     +     1.0 06:OVF             .00      .000 No_date    0:00     .00  n/a      .000
                  SUM=     1.0 05:22            69.20      .316 No_date    3:04   13.91  n/a      .000
#-----------------|------------------------------------------------------------|
#-----------------|----------10 YEAR KCHU--------------------------------------|
#-----------------|------------------------------------------------------------|
R0001:C00076---------------------------------------------------------------------------------------
     READ STORM
        Filename = 10yr.stm
        Comment  = 10yr 6 hr Kifer Chu Chicago Storm Event
        [SDT=60.00:SDUR=   6.00:PTOT=  66.00]
#-----------------|------------------------------------------------------------|
#-----------------|----------------POST-DEVELOPMENT----------------------------|
#-----------------|------------------------------------------------------------|
#-----------------|--------------------OUTLET A-------------------------------|
#-----------------|------------------------------------------------------------|
R0001:C00077------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD          1.0 02:EXT-1          3.50      .199 No_date    3:01   20.91 .317      .000
        [CN= 73.0: N= 3.00: Tp=  .13]
#-----------------|------------------------------------------------------------|
R0001:C00078------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD          1.0 03:INT-3           .20      .012 No_date    3:00   20.91 .317      .000
        [CN= 73.0: N= 3.00: Tp=  .05]
#-----------------|------------------------------------------------------------|
R0001:C00079------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD          1.0 04:UNC-1           .80      .056 No_date    3:04   32.24 .488      .000
        [CN= 82.0: N= 3.00: Tp=  .28]
#-----------------|------------------------------------------------------------|
#-----------------|------------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 825mm CULVERT     |
#-----------------|------------------------------------------------------------|
R0001:C00080------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:EXT-1          3.50      .199 No_date    3:01   20.91  n/a      .000
                     +     1.0 03:INT-3           .20      .012 No_date    3:00   20.91  n/a      .000
                     +     1.0 04:UNC-1           .80      .056 No_date    3:04   32.24  n/a      .000
                  SUM=     1.0 01:825mm          4.50      .266 No_date    3:01   22.93  n/a      .000
#-----------------|------------------------------------------------------------|
#-----------------|------------------------------------------------------------|
#-----------------|-----------OUTLET B-----------------------------------------|
#-----------------|------------------------------------------------------------|
R0001:C00081------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD          1.0 05:EXT-2          4.10      .236 No_date    3:01   20.91 .317      .000
        [CN= 73.0: N= 3.00: Tp=  .12]
#-----------------|------------------------------------------------------------|
R0001:C00082------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD          1.0 08:EXT-3          2.20      .125 No_date    3:01   20.91 .317      .000
        [CN= 73.0: N= 3.00: Tp=  .13]
#-----------------|------------------------------------------------------------|
R0001:C00083------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB STANDHYD        1.0 06:INT-2          3.00      .217 No_date    3:01   37.53 .569      .000
        [XIMP=.15:TIMP=.31]
        [LOSS= 2 :CN= 79.0]
        [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  65.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 2.00:SLPI= .50:LGI= 141.:MNI=.013:SCI=   .0]
#-----------------|------------------------------------------------------------|
R0001:C00084------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD          1.0 07:INT-4           .60      .037 No_date    3:00   20.91 .317      .000
        [CN= 73.0: N= 3.00: Tp=  .05]
#-----------------|------------------------------------------------------------|
R0001:C00085------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB STANDHYD        1.0 09:INT-1          8.60      .621 No_date    3:02   38.35 .581      .000
        [XIMP=.16:TIMP=.34]
        [LOSS= 2 :CN= 79.0]
        [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  65.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 2.00:SLPI= .50:LGI= 245.:MNI=.013:SCI=   .0]
#-----------------|------------------------------------------------------------|
#-----------------|------------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE SWMF-------------|
#-----------------|------------------------------------------------------------|
#-----------------|------------------------------------------------------------|
R0001:C00086------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 05:EXT-2          4.10      .236 No_date    3:01   20.91  n/a      .000
                     +     1.0 08:EXT-3          2.20      .125 No_date    3:01   20.91  n/a      .000
                     +     1.0 06:INT-2          3.00      .217 No_date    3:01   37.53  n/a      .000
                     +     1.0 07:INT-4           .60      .037 No_date    3:00   20.91  n/a      .000
                     +     1.0 09:INT-1          8.60      .621 No_date    3:02   38.35  n/a      .000
                  SUM=     1.0 04:POOL1INT      18.50     1.232 No_date    3:01   31.72  n/a      .000
#-----------------|------------------------------------------------------------|
R0001:C00087------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB STANDHYD        1.0 02:SWMF            .80      .076 No_date    3:00   46.48 .704      .000
        [XIMP=.50:TIMP=.50]
        [LOSS= 2 :CN= 79.0]
        [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  20.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 2.00:SLPI=2.00:LGI=  64.:MNI=.013:SCI=   .0]
#-----------------|------------------------------------------------------------|
R0001:C00088------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 04:POOL1INT      18.50     1.232 No_date    3:01   31.72  n/a      .000
                     +     1.0 02:SWMF            .80      .076 No_date    3:00   46.48  n/a      .000
                  SUM=     1.0 03:POOL1         19.30     1.303 No_date    3:00   32.33  n/a      .000
#-----------------|------------------------------------------------------------|
#-----------------|------------------------------------------------------------|
R0001:C00089------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 03:POOL1         19.30     1.303 No_date    3:00   32.33  n/a      .000
                out <=     1.0 06:POOL          19.30      .146 No_date    5:01   32.33  n/a      .000
           overflow <=     1.0 07:OVF1            .00      .000 No_date    0:00     .00  n/a      .000
       {MxStoUsed=.4767E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
#-----------------|------------------------------------------------------------|
R0001:C00090------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB STANDHYD        1.0 10:UNC-2          1.50      .102 No_date    3:01   34.56 .524      .000
        [XIMP=.08:TIMP=.22]
        [LOSS= 2 :CN= 79.0]
        [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  65.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 2.00:SLPI= .50:LGI= 100.:MNI=.013:SCI=   .0]
#-----------------|------------------------------------------------------------|
R0001:C00091------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD          1.0 04:UNC-3          2.00      .134 No_date    3:00   23.41 .355      .000
        [CN= 75.3: N= 3.00: Tp=  .05]
#-----------------|------------------------------------------------------------|
#-----------------|------------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 900mm CULVERT-----|
#-----------------|------------------------------------------------------------|
R0001:C00092------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 04:UNC-3          2.00      .134 No_date    3:00   23.41  n/a      .000
                     +     1.0 06:POOL          19.30      .146 No_date    5:01   32.33  n/a      .000
                     +     1.0 07:OVF1            .00      .000 No_date    0:00     .00  n/a      .000
                     +     1.0 10:UNC-2          1.50      .102 No_date    3:01   34.56  n/a      .000
                  SUM=     1.0 02:900mm         22.80      .286 No_date    3:00   31.69  n/a      .000
#-----------------|------------------------------------------------------------|
#-----------------|------------------------------------------------------------|
#-----------------|-----------OUTLET C-----------------------------------------|
#-----------------|------------------------------------------------------------|
R0001:C00093------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD          1.0 04:EXT-4          2.60      .148 No_date    3:01   20.91 .317      .000
        [CN= 73.0: N= 3.00: Tp=  .13]
#-----------------|------------------------------------------------------------|
R0001:C00094------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD          1.0 05:EXT-5          5.20      .302 No_date    3:01   20.91 .317      .000
        [CN= 73.0: N= 3.00: Tp=  .11]
#-----------------|------------------------------------------------------------|
R0001:C00095------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD          1.0 08:INT-5           .10      .006 No_date    3:00   20.91 .317      .000
        [CN= 73.0: N= 3.00: Tp=  .05]
#-----------------|------------------------------------------------------------|
#-----------------|------------------------------------------------------------|
#-----------------|-------THE ADD HYD MODELS FLOW TO WC21A-------------------|
#-----------------|------------------------------------------------------------|
R0001:C00096------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 04:EXT-4          2.60      .148 No_date    3:01   20.91  n/a      .000
                     +     1.0 05:EXT-5          5.20      .302 No_date    3:01   20.91  n/a      .000
                     +     1.0 08:INT-5           .10      .006 No_date    3:00   20.91  n/a      .000
                  SUM=     1.0 06:EXT4_5         7.90      .456 No_date    3:01   20.91  n/a      .000
#-----------------|------------------------------------------------------------|
R0001:C00097------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    1.0 06:EXT4_5         7.90      .456 No_date    3:01   20.91  n/a      .000
      [RDT= 1.00] out<-    1.0 05:WC21A          7.90      .380 No_date    3:05   20.91  n/a      .000
        [L/S/n=  730./5.500/.070]
        {Vmax=  .877:Dmax=  .279}
#-----------------|------------------------------------------------------------|
R0001:C00098------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD          1.0 04:UNC-4          3.10      .043 No_date    3:07    6.56 .099      .000
        [CN= 36.7: N= 3.00: Tp=  .30]
#-----------------|------------------------------------------------------------|
#-----------------|-------THE ADD HYD MODELS FLOW TO WC21A AT SITE------------|
#-----------------|------------------------------------------------------------|
R0001:C00099------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 05:WC21A          7.90      .380 No_date    3:05   20.91  n/a      .000
                     +     1.0 04:UNC-4          3.10      .043 No_date    3:07    6.56  n/a      .000
                  SUM=     1.0 03:EXT_UNC       11.00      .423 No_date    3:05   16.87  n/a      .000
#-----------------|------------------------------------------------------------|
#-----------------|------------------------------------------------------------|
R0001:C00100------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD          1.0 07:Ext-6          6.00      .244 No_date    3:10   20.91 .317      .000
        [CN= 73.0: N= 3.00: Tp=  .39]
#-----------------|------------------------------------------------------------|
R0001:C00101------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD          1.0 09:Ext-7          6.00      .319 No_date    3:02   20.91 .317      .000
        [CN= 73.0: N= 3.00: Tp=  .19]
#-----------------|------------------------------------------------------------|
R0001:C00102------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD          1.0 10:Ext-8         13.10      .584 No_date    3:11   23.25 .352      .000
        [CN= 75.2: N= 3.00: Tp=  .40]
#-----------------|------------------------------------------------------------|
#-----------------|------------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS SUBWATERSHED FLOW--------------|
#-----------------|------------------------------------------------------------|
R0001:C00103------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 07:Ext-6          6.00      .244 No_date    3:10   20.91  n/a      .000
                     +     1.0 03:EXT_UNC       11.00      .423 No_date    3:05   16.87  n/a      .000
                     +     1.0 09:Ext-7          6.00      .319 No_date    3:02   20.91  n/a      .000
                     +     1.0 10:Ext-8         13.10      .584 No_date    3:11   23.25  n/a      .000
                  SUM=     1.0 04:NE_DITCH      36.10     1.534 No_date    3:06   20.53  n/a      .000
#-----------------|------------------------------------------------------------|
R0001:C00104------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD          1.0 06:Ext-9          7.00      .362 No_date    3:07   24.93 .378      .000
        [CN= 76.8: N= 3.00: Tp=  .34]
#-----------------|------------------------------------------------------------|
#-----------------|------------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS Subwatershed 21A Outflow--------|
#-----------------|------------------------------------------------------------|
#-----------------|------------------------------------------------------------|
R0001:C00105------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 04:NE_DITCH      36.10     1.534 No_date    3:06   20.53  n/a      .000
                     +     1.0 06:Ext-9          7.00      .362 No_date    3:07   24.93  n/a      .000
                  SUM=     1.0 05:21A           43.10     1.895 No_date    3:06   21.24  n/a      .000
#-----------------|------------------------------------------------------------|
R0001:C00106------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD          1.0 04:Ext-10A       27.90      .884 No_date    3:03   12.78 .194      .000
        [CN= 56.0: N= 3.00: Tp=  .20]
#-----------------|------------------------------------------------------------|
R0001:C00107------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD          1.0 03:Ext-11         3.90      .240 No_date    3:00   22.09 .335      .000
        [CN= 72.9: N= 3.00: Tp=  .08]
#-----------------|------------------------------------------------------------|
R0001:C00108------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD          1.0 06:Ext-12         5.20      .280 No_date    3:02   20.91 .317      .000
        [CN= 73.0: N= 3.00: Tp=  .18]
#-----------------|------------------------------------------------------------|
#-----------------|------------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO EX. STORAGE AREA------|
#-----------------|------------------------------------------------------------|
#-----------------|------------------------------------------------------------|
R0001:C00109------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 01:825mm          4.50      .266 No_date    3:01   22.93  n/a      .000
                     +     1.0 02:900mm         22.80      .286 No_date    3:00   31.69  n/a      .000
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```
                     +     1.0 04:Ext-10A       27.90      .884 No_date    3:03   12.78  n/a      .000
                     +     1.0 03:Ext-11         3.90      .240 No_date    3:00   22.09  n/a      .000
                     +     1.0 06:Ext-12         5.20      .280 No_date    3:02   20.91  n/a      .000
                  SUM=     1.0 05:WET-STO       64.30     1.935 No_date    3:01   21.42  n/a      .000
#-----------------|-----------------------------------------------------------|
R0001:C00110------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->     1.0 05:WET-STO       64.30     1.935 No_date    3:01   21.42  n/a      .000
                out <=     1.0 04:22            64.30      .316 No_date    5:16   21.42  n/a      .000
           overflow <=     1.0 06:OVF             .00      .000 No_date    0:00     .00  n/a      .000
     {MxStoUsed=.5040E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
#-----------------|-----------------------------------------------------------|
R0001:C00111------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD           1.0 03:Ext-10B        4.90      .163 No_date    3:02   13.22 .200      .000
      [CN= 54.6: N= 3.00: Tp=  .17]
#-----------------|-----------------------------------------------------------|
#-----------------|-----------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS SUBWATERSHED 22 OUTFLOW ---------|
#-----------------|-----------------------------------------------------------|
#-----------------|-----------------------------------------------------------|
R0001:C00112------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                1.0 03:Ext-10B        4.90      .163 No_date    3:02   13.22  n/a      .000
                     +     1.0 04:22            64.30      .316 No_date    5:16   21.42  n/a      .000
                     +     1.0 06:OVF             .00      .000 No_date    0:00     .00  n/a      .000
                  SUM=     1.0 05:22            69.20      .421 No_date    3:04   20.84  n/a      .000
#-----------------|-----------------------------------------------------------|
#-----------------|----------25 YEAR KCHU-------------------------------------|
#-----------------|-----------------------------------------------------------|
R0001:C00113-----------------------------------------------------------------------------------------
     READ STORM
      Filename = 25yr.stm
      Comment  = 25-Year 6 hr Kifer Chu Chicago Storm Event
      [SDT=60.00:SDUR=   6.00:PTOT=  77.90]
#-----------------|-----------------------------------------------------------|
#-----------------|----------------POST-DEVELOPMENT---------------------------|
#-----------------|-----------------------------------------------------------|
#-----------------|--------------------OUTLET A-------------------------------|
#-----------------|-----------------------------------------------------------|
R0001:C00114------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD           1.0 02:EXT-1          3.50      .258 No_date    3:01   28.49 .366      .000
      [CN= 73.0: N= 3.00: Tp=  .13]
#-----------------|-----------------------------------------------------------|
R0001:C00115------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD           1.0 03:INT-3           .20      .016 No_date    3:00   28.49 .366      .000
      [CN= 73.0: N= 3.00: Tp=  .05]
#-----------------|-----------------------------------------------------------|
R0001:C00116------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD           1.0 04:UNC-1           .80      .071 No_date    3:04   41.70 .535      .000
      [CN= 82.0: N= 3.00: Tp=  .28]
#-----------------|-----------------------------------------------------------|
#-----------------|-----------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 825mm CULVERT      |
#-----------------|-----------------------------------------------------------|
R0001:C00117------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:EXT-1          3.50      .258 No_date    3:01   28.49  n/a      .000
                     +     1.0 03:INT-3           .20      .016 No_date    3:00   28.49  n/a      .000
                     +     1.0 04:UNC-1           .80      .071 No_date    3:04   41.70  n/a      .000
                  SUM=     1.0 01:825mm          4.50      .343 No_date    3:01   30.84  n/a      .000
#-----------------|-----------------------------------------------------------|
#-----------------|-----------------------------------------------------------|
#-----------------|----------OUTLET B-----------------------------------------|
#-----------------|-----------------------------------------------------------|
R0001:C00118------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD           1.0 05:EXT-2          4.10      .305 No_date    3:01   28.49 .366      .000
      [CN= 73.0: N= 3.00: Tp=  .12]
#-----------------|-----------------------------------------------------------|
R0001:C00119------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD           1.0 08:EXT-3          2.20      .162 No_date    3:01   28.49 .366      .000
      [CN= 73.0: N= 3.00: Tp=  .13]
#-----------------|-----------------------------------------------------------|
R0001:C00120------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB STANDHYD         1.0 06:INT-2          3.00      .275 No_date    3:01   47.41 .609      .000
      [XIMP=.15:TIMP=.31]
      [LOSS= 2 :CN= 79.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  65.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI= .50:LGI= 141.:MNI=.013:SCI=   .0]
#-----------------|-----------------------------------------------------------|
R0001:C00121------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD           1.0 07:INT-4           .60      .047 No_date    3:00   28.49 .366      .000
      [CN= 73.0: N= 3.00: Tp=  .05]
#-----------------|-----------------------------------------------------------|
R0001:C00122------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB STANDHYD         1.0 09:INT-1          8.60      .782 No_date    3:02   48.33 .620      .000
      [XIMP=.16:TIMP=.34]
      [LOSS= 2 :CN= 79.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  65.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI= .50:LGI= 245.:MNI=.013:SCI=   .0]
#-----------------|-----------------------------------------------------------|
#-----------------|-----------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE SWMF--------------|
#-----------------|-----------------------------------------------------------|
#-----------------|-----------------------------------------------------------|
R0001:C00123------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                1.0 05:EXT-2          4.10      .305 No_date    3:01   28.49  n/a      .000
                     +     1.0 08:EXT-3          2.20      .162 No_date    3:01   28.49  n/a      .000
                     +     1.0 06:INT-2          3.00      .275 No_date    3:01   47.41  n/a      .000
                     +     1.0 07:INT-4           .60      .047 No_date    3:00   28.49  n/a      .000
                     +     1.0 09:INT-1          8.60      .782 No_date    3:02   48.33  n/a      .000
                  SUM=     1.0 04:POOL1INT      18.50     1.568 No_date    3:01   40.78  n/a      .000
#-----------------|-----------------------------------------------------------|
R0001:C00124------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB STANDHYD         1.0 02:SWMF            .80      .091 No_date    3:00   56.87 .730      .000
      [XIMP=.50:TIMP=.50]
      [LOSS= 2 :CN= 79.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  20.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI=2.00:LGI=  64.:MNI=.013:SCI=   .0]
#-----------------|-----------------------------------------------------------|
R0001:C00125------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                1.0 04:POOL1INT      18.50     1.568 No_date    3:01   40.78  n/a      .000
                     +     1.0 02:SWMF            .80      .091 No_date    3:00   56.87  n/a      .000
                  SUM=     1.0 03:POOL1         19.30     1.656 No_date    3:00   41.45  n/a      .000
#-----------------|-----------------------------------------------------------|
#-----------------|-----------------------------------------------------------|
R0001:C00126------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->     1.0 03:POOL1         19.30     1.656 No_date    3:00   41.45  n/a      .000
                out <=     1.0 06:POOL          19.30      .231 No_date    4:27   41.44  n/a      .000
           overflow <=     1.0 07:OVF1            .00      .000 No_date    0:00     .00  n/a      .000
     {MxStoUsed=.5824E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
#-----------------|-----------------------------------------------------------|
R0001:C00127------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB STANDHYD         1.0 10:UNC-2          1.50      .132 No_date    3:01   44.17 .567      .000
      [XIMP=.08:TIMP=.22]
      [LOSS= 2 :CN= 79.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  65.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI= .50:LGI= 100.:MNI=.013:SCI=   .0]
#-----------------|-----------------------------------------------------------|
R0001:C00128------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD           1.0 04:UNC-3          2.00      .170 No_date    3:00   31.46 .404      .000
      [CN= 75.3: N= 3.00: Tp=  .05]
#-----------------|-----------------------------------------------------------|
#-----------------|-----------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 900mm CULVERT-----|
#-----------------|-----------------------------------------------------------|
R0001:C00129------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                1.0 04:UNC-3          2.00      .170 No_date    3:00   31.46  n/a      .000
                     +     1.0 06:POOL          19.30      .231 No_date    4:27   41.44  n/a      .000
                     +     1.0 07:OVF1            .00      .000 No_date    0:00     .00  n/a      .000
                     +     1.0 10:UNC-2          1.50      .132 No_date    3:01   44.17  n/a      .000
                  SUM=     1.0 02:900mm         22.80      .385 No_date    3:00   40.75  n/a      .000
#-----------------|-----------------------------------------------------------|
#-----------------|-----------------------------------------------------------|
#-----------------|----------OUTLET C-----------------------------------------|
#-----------------|-----------------------------------------------------------|
R0001:C00130------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD           1.0 04:EXT-4          2.60      .192 No_date    3:01   28.49 .366      .000
      [CN= 73.0: N= 3.00: Tp=  .13]
#-----------------|-----------------------------------------------------------|
R0001:C00131------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD           1.0 05:EXT-5          5.20      .390 No_date    3:01   28.49 .366      .000
      [CN= 73.0: N= 3.00: Tp=  .11]
#-----------------|-----------------------------------------------------------|
R0001:C00132------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD           1.0 08:INT-5           .10      .008 No_date    3:00   28.49 .366      .000
      [CN= 73.0: N= 3.00: Tp=  .05]
#-----------------|-----------------------------------------------------------|
#-----------------|-----------------------------------------------------------|
#-----------------|-------THE ADD HYD MODELS FLOW TO WC21A---------------------|
#-----------------|-----------------------------------------------------------|
R0001:C00133------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                1.0 04:EXT-4          2.60      .192 No_date    3:01   28.49  n/a      .000
                     +     1.0 05:EXT-5          5.20      .390 No_date    3:01   28.49  n/a      .000
                     +     1.0 08:INT-5           .10      .008 No_date    3:00   28.49  n/a      .000
                  SUM=     1.0 06:EXT4_5         7.90      .589 No_date    3:01   28.49  n/a      .000
#-----------------|-----------------------------------------------------------|
R0001:C00134------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->     1.0 06:EXT4_5         7.90      .589 No_date    3:01   28.49  n/a      .000
    [RDT= 1.00] out<-      1.0 05:WC21A          7.90      .505 No_date    3:04   28.49  n/a      .000
      [L/S/n=  730./5.500/.070]
      {Vmax=  .902:Dmax=  .297}
#-----------------|-----------------------------------------------------------|
R0001:C00135------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD           1.0 04:UNC-4          3.10      .060 No_date    3:07    9.36 .120      .000
      [CN= 36.7: N= 3.00: Tp=  .30]
#-----------------|-----------------------------------------------------------|
#-----------------|-------THE ADD HYD MODELS FLOW TO WC21A AT SITE-------------|
#-----------------|-----------------------------------------------------------|
R0001:C00136------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                1.0 05:WC21A          7.90      .505 No_date    3:04   28.49  n/a      .000
                     +     1.0 04:UNC-4          3.10      .060 No_date    3:07    9.36  n/a      .000
                  SUM=     1.0 03:EXT_UNC       11.00      .564 No_date    3:04   23.10  n/a      .000
#-----------------|-----------------------------------------------------------|
#-----------------|-----------------------------------------------------------|
R0001:C00137------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD           1.0 07:Ext-6          6.00      .325 No_date    3:10   28.49 .366      .000
      [CN= 73.0: N= 3.00: Tp=  .39]
#-----------------|-----------------------------------------------------------|
R0001:C00138------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD           1.0 09:Ext-7          6.00      .416 No_date    3:02   28.49 .366      .000
      [CN= 73.0: N= 3.00: Tp=  .19]
#-----------------|-----------------------------------------------------------|
R0001:C00139------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD           1.0 10:Ext-8         13.10      .768 No_date    3:10   31.28 .402      .000
      [CN= 75.2: N= 3.00: Tp=  .40]
#-----------------|-----------------------------------------------------------|
#-----------------|-----------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS SUBWATERSHED FLOW---------------|
#-----------------|-----------------------------------------------------------|
R0001:C00140------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                1.0 07:Ext-6          6.00      .325 No_date    3:10   28.49  n/a      .000
                     +     1.0 03:EXT_UNC       11.00      .564 No_date    3:04   23.10  n/a      .000
                     +     1.0 09:Ext-7          6.00      .416 No_date    3:02   28.49  n/a      .000
                     +     1.0 10:Ext-8         13.10      .768 No_date    3:10   31.28  n/a      .000
                  SUM=     1.0 04:NE_DITCH      36.10     2.030 No_date    3:05   27.86  n/a      .000
#-----------------|-----------------------------------------------------------|
R0001:C00141------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD           1.0 06:Ext-9          7.00      .471 No_date    3:07   33.28 .427      .000
      [CN= 76.8: N= 3.00: Tp=  .34]
#-----------------|-----------------------------------------------------------|
#-----------------|-----------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS Subwatershed 21A Outflow--------|
#-----------------|-----------------------------------------------------------|
#-----------------|-----------------------------------------------------------|
R0001:C00142------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                1.0 04:NE_DITCH      36.10     2.030 No_date    3:05   27.86  n/a      .000
                     +     1.0 06:Ext-9          7.00      .471 No_date    3:07   33.28  n/a      .000
                  SUM=     1.0 05:21A           43.10     2.499 No_date    3:06   28.74  n/a      .000
#-----------------|-----------------------------------------------------------|
R0001:C00143------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD           1.0 04:Ext-10A       27.90     1.186 No_date    3:03   17.82 .229      .000
      [CN= 56.0: N= 3.00: Tp=  .20]
#-----------------|-----------------------------------------------------------|
R0001:C00144------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD           1.0 03:Ext-11         3.90      .307 No_date    3:00   29.76 .382      .000
      [CN= 72.9: N= 3.00: Tp=  .08]
#-----------------|-----------------------------------------------------------|
R0001:C00145------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD           1.0 06:Ext-12         5.20      .365 No_date    3:02   28.49 .366      .000
      [CN= 73.0: N= 3.00: Tp=  .18]
#-----------------|-----------------------------------------------------------|
#-----------------|-----------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO EX. STORAGE AREA------|
#-----------------|-----------------------------------------------------------|
#-----------------|-----------------------------------------------------------|
R0001:C00146------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                1.0 01:825mm          4.50      .343 No_date    3:01   30.84  n/a      .000
                     +     1.0 02:900mm         22.80      .385 No_date    3:00   40.75  n/a      .000
                     +     1.0 04:Ext-10A       27.90     1.186 No_date    3:03   17.82  n/a      .000
                     +     1.0 03:Ext-11         3.90      .307 No_date    3:00   29.76  n/a      .000
                     +     1.0 06:Ext-12         5.20      .365 No_date    3:02   28.49  n/a      .000
                  SUM=     1.0 05:WET-STO       64.30     2.561 No_date    3:01   28.45  n/a      .000
#-----------------|-----------------------------------------------------------|
R0001:C00147------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->     1.0 05:WET-STO       64.30     2.561 No_date    3:01   28.45  n/a      .000
                out <=     1.0 04:22            64.30      .387 No_date    6:04   28.45  n/a      .000
           overflow <=     1.0 06:OVF             .00      .000 No_date    0:00     .00  n/a      .000
     {MxStoUsed=.7826E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
#-----------------|-----------------------------------------------------------|
R0001:C00148------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD           1.0 03:Ext-10B        4.90      .216 No_date    3:02   18.19 .234      .000
      [CN= 54.6: N= 3.00: Tp=  .17]
#-----------------|-----------------------------------------------------------|
#-----------------|-----------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS SUBWATERSHED 22 OUTFLOW ---------|
#-----------------|-----------------------------------------------------------|
#-----------------|-----------------------------------------------------------|
R0001:C00149------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                1.0 03:Ext-10B        4.90      .216 No_date    3:02   18.19  n/a      .000
                     +     1.0 04:22            64.30      .387 No_date    6:04   28.45  n/a      .000
                     +     1.0 06:OVF             .00      .000 No_date    0:00     .00  n/a      .000
                  SUM=     1.0 05:22            69.20      .510 No_date    3:04   27.72  n/a      .000
#-----------------|-----------------------------------------------------------|
#-----------------|----------50 YEAR KCHU-------------------------------------|
#-----------------|-----------------------------------------------------------|
R0001:C00150-----------------------------------------------------------------------------------------
     READ STORM
      Filename = 50yr.stm
      Comment  = 50-Year 6 hr Kifer Chu Chicago Storm Event
      [SDT=60.00:SDUR=   6.00:PTOT=  83.90]
#-----------------|-----------------------------------------------------------|
#-----------------|----------------POST-DEVELOPMENT---------------------------|
#-----------------|-----------------------------------------------------------|
#-----------------|--------------------OUTLET A-------------------------------|
#-----------------|-----------------------------------------------------------|
R0001:C00151------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD           1.0 02:EXT-1          3.50      .290 No_date    3:01   32.54 .388      .000
      [CN= 73.0: N= 3.00: Tp=  .13]
#-----------------|-----------------------------------------------------------|
R0001:C00152------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD           1.0 03:INT-3           .20      .018 No_date    3:00   32.54 .388      .000
      [CN= 73.0: N= 3.00: Tp=  .05]
#-----------------|-----------------------------------------------------------|
R0001:C00153------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD           1.0 04:UNC-1           .80      .078 No_date    3:04   46.63 .556      .000
      [CN= 82.0: N= 3.00: Tp=  .28]
#-----------------|-----------------------------------------------------------|
#-----------------|-----------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 825mm CULVERT      |
#-----------------|-----------------------------------------------------------|
R0001:C00154------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:EXT-1          3.50      .290 No_date    3:01   32.54  n/a      .000
                     +     1.0 03:INT-3           .20      .018 No_date    3:00   32.54  n/a      .000
                     +     1.0 04:UNC-1           .80      .078 No_date    3:04   46.63  n/a      .000
                  SUM=     1.0 01:825mm          4.50      .384 No_date    3:01   35.04  n/a      .000
#-----------------|-----------------------------------------------------------|
#-----------------|-----------------------------------------------------------|
#-----------------|----------OUTLET B-----------------------------------------|
#-----------------|-----------------------------------------------------------|
R0001:C00155------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD           1.0 05:EXT-2          4.10      .343 No_date    3:01   32.54 .388      .000
      [CN= 73.0: N= 3.00: Tp=  .12]
#-----------------|-----------------------------------------------------------|
R0001:C00156------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD           1.0 08:EXT-3          2.20      .182 No_date    3:01   32.54 .388      .000
      [CN= 73.0: N= 3.00: Tp=  .13]
#-----------------|-----------------------------------------------------------|
R0001:C00157------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB STANDHYD         1.0 06:INT-2          3.00      .307 No_date    3:01   52.53 .626      .000
      [XIMP=.15:TIMP=.31]
      [LOSS= 2 :CN= 79.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  65.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI= .50:LGI= 141.:MNI=.013:SCI=   .0]
#-----------------|-----------------------------------------------------------|
R0001:C00158------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD           1.0 07:INT-4           .60      .053 No_date    3:00   32.54 .388      .000
      [CN= 73.0: N= 3.00: Tp=  .05]
#-----------------|-----------------------------------------------------------|
R0001:C00159------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB STANDHYD         1.0 09:INT-1          8.60      .871 No_date    3:02   53.49 .638      .000
      [XIMP=.16:TIMP=.34]
      [LOSS= 2 :CN= 79.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  65.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI= .50:LGI= 245.:MNI=.013:SCI=   .0]
#-----------------|-----------------------------------------------------------|
#-----------------|-----------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE SWMF--------------|
#-----------------|-----------------------------------------------------------|
#-----------------|-----------------------------------------------------------|
R0001:C00160------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                1.0 05:EXT-2          4.10      .343 No_date    3:01   32.54  n/a      .000
                     +     1.0 08:EXT-3          2.20      .182 No_date    3:01   32.54  n/a      .000
                     +     1.0 06:INT-2          3.00      .307 No_date    3:01   52.53  n/a      .000
                     +     1.0 07:INT-4           .60      .053 No_date    3:00   32.54  n/a      .000
                     +     1.0 09:INT-1          8.60      .871 No_date    3:02   53.49  n/a      .000
                  SUM=     1.0 04:POOL1INT      18.50     1.752 No_date    3:01   45.52  n/a      .000
#-----------------|-----------------------------------------------------------|
R0001:C00161------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB STANDHYD         1.0 02:SWMF            .80      .099 No_date    3:00   62.21 .741      .000
      [XIMP=.50:TIMP=.50]
      [LOSS= 2 :CN= 79.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  20.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI=2.00:LGI=  64.:MNI=.013:SCI=   .0]
#-----------------|-----------------------------------------------------------|
R0001:C00162------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                1.0 04:POOL1INT      18.50     1.752 No_date    3:01   45.52  n/a      .000
                     +     1.0 02:SWMF            .80      .099 No_date    3:00   62.21  n/a      .000
                  SUM=     1.0 03:POOL1         19.30     1.848 No_date    3:00   46.21  n/a      .000
#-----------------|-----------------------------------------------------------|
#-----------------|-----------------------------------------------------------|
R0001:C00163------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->     1.0 03:POOL1         19.30     1.848 No_date    3:00   46.21  n/a      .000
                out <=     1.0 06:POOL          19.30      .278 No_date    4:20   46.21  n/a      .000
           overflow <=     1.0 07:OVF1            .00      .000 No_date    0:00     .00  n/a      .000
     {MxStoUsed=.6360E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
#-----------------|-----------------------------------------------------------|
R0001:C00164------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB STANDHYD         1.0 10:UNC-2          1.50      .147 No_date    3:01   49.16 .586      .000
      [XIMP=.08:TIMP=.22]
      [LOSS= 2 :CN= 79.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  65.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI= .50:LGI= 100.:MNI=.013:SCI=   .0]
#-----------------|-----------------------------------------------------------|
R0001:C00165------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD           1.0 04:UNC-3          2.00      .190 No_date    3:00   35.74 .426      .000
      [CN= 75.3: N= 3.00: Tp=  .05]
#-----------------|-----------------------------------------------------------|
#-----------------|-----------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 900mm CULVERT-----|
#-----------------|-----------------------------------------------------------|
R0001:C00166------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                1.0 04:UNC-3          2.00      .190 No_date    3:00   35.74  n/a      .000
                     +     1.0 06:POOL          19.30      .278 No_date    4:20   46.21  n/a      .000
                     +     1.0 07:OVF1            .00      .000 No_date    0:00     .00  n/a      .000
                     +     1.0 10:UNC-2          1.50      .147 No_date    3:01   49.16  n/a      .000
                  SUM=     1.0 02:900mm         22.80      .439 No_date    3:00   45.48  n/a      .000
#-----------------|-----------------------------------------------------------|
```

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#-----------------|-----------------------------------------------------------|
#-----------------|-----------OUTLET C----------------------------------------|
#-----------------|-----------------------------------------------------------|
R0001:C00167------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 04:EXT-4          2.60      .215 No_date    3:01   32.54 .388      .000
      [CN= 73.0: N= 3.00: Tp=  .13]
#-----------------|-----------------------------------------------------------|
R0001:C00168------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 05:EXT-5          5.20      .438 No_date    3:01   32.54 .388      .000
      [CN= 73.0: N= 3.00: Tp=  .11]
#-----------------|-----------------------------------------------------------|
R0001:C00169------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 08:INT-5           .10      .009 No_date    3:00   32.54 .388      .000
      [CN= 73.0: N= 3.00: Tp=  .05]
#-----------------|-----------------------------------------------------------|
#-----------------|-----------------------------------------------------------|
#-----------------|-------THE ADD HYD MODELS FLOW TO WC21A--------------------|
#-----------------|-----------------------------------------------------------|
R0001:C00170------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 04:EXT-4          2.60      .215 No_date    3:01   32.54  n/a      .000
                     +    1.0 05:EXT-5          5.20      .438 No_date    3:01   32.54  n/a      .000
                     +    1.0 08:INT-5           .10      .009 No_date    3:00   32.54  n/a      .000
                  SUM=    1.0 06:EXT4_5         7.90      .662 No_date    3:01   32.54  n/a      .000
#-----------------|-----------------------------------------------------------|
R0001:C00171------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 06:EXT4_5         7.90      .662 No_date    3:01   32.54  n/a      .000
     [RDT= 1.00] out<-    1.0 05:WC21A          7.90      .573 No_date    3:04   32.54  n/a      .000
      [L/S/n=  730./5.500/.070]
      {Vmax=  .916:Dmax=  .308}
#-----------------|-----------------------------------------------------------|
R0001:C00172------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 04:UNC-4          3.10      .070 No_date    3:07   10.94 .130      .000
      [CN= 36.7: N= 3.00: Tp=  .30]
#-----------------|-----------------------------------------------------------|
#-----------------|-------THE ADD HYD MODELS FLOW TO WC21A AT SITE------------|
#-----------------|-----------------------------------------------------------|
R0001:C00173------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 05:WC21A          7.90      .573 No_date    3:04   32.54  n/a      .000
                     +    1.0 04:UNC-4          3.10      .070 No_date    3:07   10.94  n/a      .000
                  SUM=    1.0 03:EXT_UNC       11.00      .642 No_date    3:04   26.45  n/a      .000
#-----------------|-----------------------------------------------------------|
#-----------------|-----------------------------------------------------------|
R0001:C00174------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 07:Ext-6          6.00      .369 No_date    3:10   32.54 .388      .000
      [CN= 73.0: N= 3.00: Tp=  .39]
#-----------------|-----------------------------------------------------------|
R0001:C00175------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 09:Ext-7          6.00      .469 No_date    3:02   32.54 .388      .000
      [CN= 73.0: N= 3.00: Tp=  .19]
#-----------------|-----------------------------------------------------------|
R0001:C00176------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 10:Ext-8         13.10      .868 No_date    3:10   35.55 .424      .000
      [CN= 75.2: N= 3.00: Tp=  .40]
#-----------------|-----------------------------------------------------------|
#-----------------|-----------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS SUBWATERSHED FLOW---------------|
#-----------------|-----------------------------------------------------------|
R0001:C00177------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 07:Ext-6          6.00      .369 No_date    3:10   32.54  n/a      .000
                     +    1.0 03:EXT_UNC       11.00      .642 No_date    3:04   26.45  n/a      .000
                     +    1.0 09:Ext-7          6.00      .469 No_date    3:02   32.54  n/a      .000
                     +    1.0 10:Ext-8         13.10      .868 No_date    3:10   35.55  n/a      .000
                  SUM=    1.0 04:NE_DITCH      36.10     2.301 No_date    3:05   31.77  n/a      .000
#-----------------|-----------------------------------------------------------|
R0001:C00178------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 06:Ext-9          7.00      .529 No_date    3:07   37.70 .449      .000
      [CN= 76.8: N= 3.00: Tp=  .34]
#-----------------|-----------------------------------------------------------|
#-----------------|-----------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS Subwatershed 21A Outflow--------|
#-----------------|-----------------------------------------------------------|
#-----------------|-----------------------------------------------------------|
R0001:C00179------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 04:NE_DITCH      36.10     2.301 No_date    3:05   31.77  n/a      .000
                     +    1.0 06:Ext-9          7.00      .529 No_date    3:07   37.70  n/a      .000
                  SUM=    1.0 05:21A           43.10     2.827 No_date    3:05   32.74  n/a      .000
#-----------------|-----------------------------------------------------------|
R0001:C00180------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 04:Ext-10A       27.90     1.355 No_date    3:03   20.58 .245      .000
      [CN= 56.0: N= 3.00: Tp=  .20]
#-----------------|-----------------------------------------------------------|
R0001:C00181------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 03:Ext-11         3.90      .343 No_date    3:00   33.85 .403      .000
      [CN= 72.9: N= 3.00: Tp=  .08]
#-----------------|-----------------------------------------------------------|
R0001:C00182------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 06:Ext-12         5.20      .411 No_date    3:02   32.54 .388      .000
      [CN= 73.0: N= 3.00: Tp=  .18]
#-----------------|-----------------------------------------------------------|
#-----------------|-----------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO EX. STORAGE AREA------|
#-----------------|-----------------------------------------------------------|
#-----------------|-----------------------------------------------------------|
R0001:C00183------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 01:825mm          4.50      .384 No_date    3:01   35.04  n/a      .000
                     +    1.0 02:900mm         22.80      .439 No_date    3:00   45.48  n/a      .000
                     +    1.0 04:Ext-10A       27.90     1.355 No_date    3:03   20.58  n/a      .000
                     +    1.0 03:Ext-11         3.90      .343 No_date    3:00   33.85  n/a      .000
                     +    1.0 06:Ext-12         5.20      .411 No_date    3:02   32.54  n/a      .000
                  SUM=    1.0 05:WET-STO       64.30     2.905 No_date    3:01   32.19  n/a      .000
#-----------------|-----------------------------------------------------------|
R0001:C00184------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 05:WET-STO       64.30     2.905 No_date    3:01   32.19  n/a      .000
                out <=    1.0 04:22            64.30      .425 No_date    6:07   32.19  n/a      .000
           overflow <=    1.0 06:OVF             .00      .000 No_date    0:00     .00  n/a      .000
     {MxStoUsed=.9402E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
#-----------------|-----------------------------------------------------------|
R0001:C00185------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 03:Ext-10B        4.90      .246 No_date    3:02   20.92 .249      .000
      [CN= 54.6: N= 3.00: Tp=  .17]
#-----------------|-----------------------------------------------------------|
#-----------------|-----------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS SUBWATERSHED 22 OUTFLOW --------|
#-----------------|-----------------------------------------------------------|
#-----------------|-----------------------------------------------------------|
R0001:C00186------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 03:Ext-10B        4.90      .246 No_date    3:02   20.92  n/a      .000
                     +    1.0 04:22            64.30      .425 No_date    6:07   32.19  n/a      .000
                     +    1.0 06:OVF             .00      .000 No_date    0:00     .00  n/a      .000
                  SUM=    1.0 05:22            69.20      .560 No_date    3:04   31.40  n/a      .000
#-----------------|-----------------------------------------------------------|
#-----------------|----------100 YEAR KCHU-----------------------------------|
#-----------------|-----------------------------------------------------------|
R0001:C00187---------------------------------------------------------------------------------------
     READ STORM
      Filename = 100yr.stm
      Comment  = 100-Year 6 hr Kifer Chu Chicago Storm Event
      [SDT=60.00:SDUR=   6.00:PTOT=  96.00]
#-----------------|-----------------------------------------------------------|
#-----------------|-----------------POST-DEVELOPMENT--------------------------|
#-----------------|-----------------------------------------------------------|
#-----------------|---------------------OUTLET A------------------------------|
#-----------------|-----------------------------------------------------------|
R0001:C00188------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 02:EXT-1          3.50      .359 No_date    3:01   41.10 .428      .000
      [CN= 73.0: N= 3.00: Tp=  .13]
#-----------------|-----------------------------------------------------------|
R0001:C00189------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 03:INT-3           .20      .022 No_date    3:00   41.10 .428      .000
      [CN= 73.0: N= 3.00: Tp=  .05]
#-----------------|-----------------------------------------------------------|
R0001:C00190------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 04:UNC-1           .80      .094 No_date    3:04   56.84 .592      .000
      [CN= 82.0: N= 3.00: Tp=  .28]
#-----------------|-----------------------------------------------------------|
#-----------------|-----------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 825mm CULVERT     |
#-----------------|-----------------------------------------------------------|
R0001:C00191------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:EXT-1          3.50      .359 No_date    3:01   41.10  n/a      .000
                     +    1.0 03:INT-3           .20      .022 No_date    3:00   41.10  n/a      .000
                     +    1.0 04:UNC-1           .80      .094 No_date    3:04   56.84  n/a      .000
                  SUM=    1.0 01:825mm          4.50      .472 No_date    3:01   43.90  n/a      .000
#-----------------|-----------------------------------------------------------|
#-----------------|-----------------------------------------------------------|
#-----------------|-----------OUTLET B----------------------------------------|
#-----------------|-----------------------------------------------------------|
R0001:C00192------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 05:EXT-2          4.10      .423 No_date    3:01   41.10 .428      .000
      [CN= 73.0: N= 3.00: Tp=  .12]
#-----------------|-----------------------------------------------------------|
R0001:C00193------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 08:EXT-3          2.20      .225 No_date    3:01   41.10 .428      .000
      [CN= 73.0: N= 3.00: Tp=  .13]
#-----------------|-----------------------------------------------------------|
R0001:C00194------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB STANDHYD        1.0 06:INT-2          3.00      .372 No_date    3:01   63.06 .657      .000
      [XIMP=.15:TIMP=.31]
      [LOSS= 2 :CN= 79.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  65.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI= .50:LGI= 141.:MNI=.013:SCI=   .0]
#-----------------|-----------------------------------------------------------|
R0001:C00195------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 07:INT-4           .60      .065 No_date    3:00   41.10 .428      .000
      [CN= 73.0: N= 3.00: Tp=  .05]
#-----------------|-----------------------------------------------------------|
R0001:C00196------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB STANDHYD        1.0 09:INT-1          8.60     1.056 No_date    3:01   64.11 .668      .000
      [XIMP=.16:TIMP=.34]
      [LOSS= 2 :CN= 79.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  65.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI= .50:LGI= 245.:MNI=.013:SCI=   .0]
#-----------------|-----------------------------------------------------------|
#-----------------|-----------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE SWMF--------------|
#-----------------|-----------------------------------------------------------|
#-----------------|-----------------------------------------------------------|
R0001:C00197------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 05:EXT-2          4.10      .423 No_date    3:01   41.10  n/a      .000
                     +    1.0 08:EXT-3          2.20      .225 No_date    3:01   41.10  n/a      .000
                     +    1.0 06:INT-2          3.00      .372 No_date    3:01   63.06  n/a      .000
                     +    1.0 07:INT-4           .60      .065 No_date    3:00   41.10  n/a      .000
                     +    1.0 09:INT-1          8.60     1.056 No_date    3:01   64.11  n/a      .000
                  SUM=    1.0 04:POOL1INT      18.50     2.138 No_date    3:01   55.36  n/a      .000
#-----------------|-----------------------------------------------------------|
R0001:C00198------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB STANDHYD        1.0 02:SWMF            .80      .117 No_date    3:00   73.12 .762      .000
      [XIMP=.50:TIMP=.50]
      [LOSS= 2 :CN= 79.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  20.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI=2.00:LGI=  64.:MNI=.013:SCI=   .0]
#-----------------|-----------------------------------------------------------|
R0001:C00199------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 04:POOL1INT      18.50     2.138 No_date    3:01   55.36  n/a      .000
                     +    1.0 02:SWMF            .80      .117 No_date    3:00   73.12  n/a      .000
                  SUM=    1.0 03:POOL1         19.30     2.253 No_date    3:00   56.09  n/a      .000
#-----------------|-----------------------------------------------------------|
#-----------------|-----------------------------------------------------------|
R0001:C00200------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 03:POOL1         19.30     2.253 No_date    3:00   56.09  n/a      .000
                out <=    1.0 06:POOL          19.30      .384 No_date    4:12   56.09  n/a      .000
           overflow <=    1.0 07:OVF1            .00      .000 No_date    0:00     .00  n/a      .000
     {MxStoUsed=.7513E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
#-----------------|-----------------------------------------------------------|
R0001:C00201------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB STANDHYD        1.0 10:UNC-2          1.50      .179 No_date    3:01   59.48 .620      .000
      [XIMP=.08:TIMP=.22]
      [LOSS= 2 :CN= 79.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  65.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI= .50:LGI= 100.:MNI=.013:SCI=   .0]
#-----------------|-----------------------------------------------------------|
R0001:C00202------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 04:UNC-3          2.00      .231 No_date    3:00   44.74 .466      .000
      [CN= 75.3: N= 3.00: Tp=  .05]
#-----------------|-----------------------------------------------------------|
#-----------------|-----------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 900mm CULVERT-----|
#-----------------|-----------------------------------------------------------|
R0001:C00203------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 04:UNC-3          2.00      .231 No_date    3:00   44.74  n/a      .000
                     +    1.0 06:POOL          19.30      .384 No_date    4:12   56.09  n/a      .000
                     +    1.0 07:OVF1            .00      .000 No_date    0:00     .00  n/a      .000
                     +    1.0 10:UNC-2          1.50      .179 No_date    3:01   59.48  n/a      .000
                  SUM=    1.0 02:900mm         22.80      .579 No_date    3:00   55.32  n/a      .000
#-----------------|-----------------------------------------------------------|
#-----------------|-----------------------------------------------------------|
#-----------------|-----------OUTLET C----------------------------------------|
#-----------------|-----------------------------------------------------------|
R0001:C00204------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 04:EXT-4          2.60      .266 No_date    3:01   41.10 .428      .000
      [CN= 73.0: N= 3.00: Tp=  .13]
#-----------------|-----------------------------------------------------------|
R0001:C00205------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 05:EXT-5          5.20      .540 No_date    3:00   41.10 .428      .000
      [CN= 73.0: N= 3.00: Tp=  .11]
#-----------------|-----------------------------------------------------------|
R0001:C00206------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 08:INT-5           .10      .011 No_date    3:00   41.10 .428      .000
      [CN= 73.0: N= 3.00: Tp=  .05]
#-----------------|-----------------------------------------------------------|
#-----------------|-----------------------------------------------------------|
#-----------------|-------THE ADD HYD MODELS FLOW TO WC21A--------------------|
#-----------------|-----------------------------------------------------------|
R0001:C00207------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 04:EXT-4          2.60      .266 No_date    3:01   41.10  n/a      .000
                     +    1.0 05:EXT-5          5.20      .540 No_date    3:00   41.10  n/a      .000
                     +    1.0 08:INT-5           .10      .011 No_date    3:00   41.10  n/a      .000
                  SUM=    1.0 06:EXT4_5         7.90      .817 No_date    3:00   41.10  n/a      .000
#-----------------|-----------------------------------------------------------|
R0001:C00208------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 06:EXT4_5         7.90      .817 No_date    3:00   41.10  n/a      .000
     [RDT= 1.00] out<-    1.0 05:WC21A          7.90      .722 No_date    3:03   41.10  n/a      .000
      [L/S/n=  730./5.500/.070]
      {Vmax=  .947:Dmax=  .330}
#-----------------|-----------------------------------------------------------|
R0001:C00209------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 04:UNC-4          3.10      .091 No_date    3:07   14.41 .150      .000
      [CN= 36.7: N= 3.00: Tp=  .30]
#-----------------|-----------------------------------------------------------|
#-----------------|-------THE ADD HYD MODELS FLOW TO WC21A AT SITE------------|
#-----------------|-----------------------------------------------------------|
R0001:C00210------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 05:WC21A          7.90      .722 No_date    3:03   41.10  n/a      .000
                     +    1.0 04:UNC-4          3.10      .091 No_date    3:07   14.41  n/a      .000
                  SUM=    1.0 03:EXT_UNC       11.00      .812 No_date    3:04   33.58  n/a      .000
#-----------------|-----------------------------------------------------------|
#-----------------|-----------------------------------------------------------|
R0001:C00211------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 07:Ext-6          6.00      .464 No_date    3:09   41.10 .428      .000
      [CN= 73.0: N= 3.00: Tp=  .39]
#-----------------|-----------------------------------------------------------|
R0001:C00212------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 09:Ext-7          6.00      .583 No_date    3:02   41.10 .428      .000
      [CN= 73.0: N= 3.00: Tp=  .19]
#-----------------|-----------------------------------------------------------|
R0001:C00213------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 10:Ext-8         13.10     1.084 No_date    3:09   44.52 .464      .000
      [CN= 75.2: N= 3.00: Tp=  .40]
#-----------------|-----------------------------------------------------------|
#-----------------|-----------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS SUBWATERSHED FLOW---------------|
#-----------------|-----------------------------------------------------------|
R0001:C00214------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 07:Ext-6          6.00      .464 No_date    3:09   41.10  n/a      .000
                     +    1.0 03:EXT_UNC       11.00      .812 No_date    3:04   33.58  n/a      .000
                     +    1.0 09:Ext-7          6.00      .583 No_date    3:02   41.10  n/a      .000
                     +    1.0 10:Ext-8         13.10     1.084 No_date    3:09   44.52  n/a      .000
                  SUM=    1.0 04:NE_DITCH      36.10     2.889 No_date    3:05   40.05  n/a      .000
#-----------------|-----------------------------------------------------------|
R0001:C00215------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 06:Ext-9          7.00      .655 No_date    3:07   46.96 .489      .000
      [CN= 76.8: N= 3.00: Tp=  .34]
#-----------------|-----------------------------------------------------------|
#-----------------|-----------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS Subwatershed 21A Outflow--------|
#-----------------|-----------------------------------------------------------|
#-----------------|-----------------------------------------------------------|
R0001:C00216------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 04:NE_DITCH      36.10     2.889 No_date    3:05   40.05  n/a      .000
                     +    1.0 06:Ext-9          7.00      .655 No_date    3:07   46.96  n/a      .000
                  SUM=    1.0 05:21A           43.10     3.542 No_date    3:05   41.17  n/a      .000
#-----------------|-----------------------------------------------------------|
R0001:C00217------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 04:Ext-10A       27.90     1.730 No_date    3:03   26.57 .277      .000
      [CN= 56.0: N= 3.00: Tp=  .20]
#-----------------|-----------------------------------------------------------|
R0001:C00218------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 03:Ext-11         3.90      .421 No_date    3:00   42.48 .443      .000
      [CN= 72.9: N= 3.00: Tp=  .08]
#-----------------|-----------------------------------------------------------|
R0001:C00219------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 06:Ext-12         5.20      .510 No_date    3:02   41.10 .428      .000
      [CN= 73.0: N= 3.00: Tp=  .18]
#-----------------|-----------------------------------------------------------|
#-----------------|-----------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO EX. STORAGE AREA------|
#-----------------|-----------------------------------------------------------|
#-----------------|-----------------------------------------------------------|
R0001:C00220------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 01:825mm          4.50      .472 No_date    3:01   43.90  n/a      .000
                     +    1.0 02:900mm         22.80      .579 No_date    3:00   55.32  n/a      .000
                     +    1.0 04:Ext-10A       27.90     1.730 No_date    3:03   26.57  n/a      .000
                     +    1.0 03:Ext-11         3.90      .421 No_date    3:00   42.48  n/a      .000
                     +    1.0 06:Ext-12         5.20      .510 No_date    3:02   41.10  n/a      .000
                  SUM=    1.0 05:WET-STO       64.30     3.687 No_date    3:01   40.11  n/a      .000
#-----------------|-----------------------------------------------------------|
R0001:C00221------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 05:WET-STO       64.30     3.687 No_date    3:01   40.11  n/a      .000
                out <=    1.0 04:22            64.30      .483 No_date    6:10   40.11  n/a      .000
           overflow <=    1.0 06:OVF             .00      .000 No_date    0:00     .00  n/a      .000
     {MxStoUsed=.1292E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
#-----------------|-----------------------------------------------------------|
R0001:C00222------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 03:Ext-10B        4.90      .312 No_date    3:02   26.82 .279      .000
      [CN= 54.6: N= 3.00: Tp=  .17]
#-----------------|-----------------------------------------------------------|
#-----------------|-----------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS SUBWATERSHED 22 OUTFLOW --------|
#-----------------|-----------------------------------------------------------|
#-----------------|-----------------------------------------------------------|
R0001:C00223------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 03:Ext-10B        4.90      .312 No_date    3:02   26.82  n/a      .000
                     +    1.0 04:22            64.30      .483 No_date    6:10   40.11  n/a      .000
                     +    1.0 06:OVF             .00      .000 No_date    0:00     .00  n/a      .000
                  SUM=    1.0 05:22            69.20      .669 No_date    3:03   39.17  n/a      .000
R0001:C00224---------------------------------------------------------------------------------------
    FINISH
---------------------------------------------------------------------------------------------------
***************************************************************************************************
      WARNINGS / ERRORS / NOTES
      -------------------------
   Simulation ended on 2022-02-10     at 15:39:44
===================================================================================================
```

```
2     Metric units
*#*****************************************************************************
*#  Project Name: [ALTA PHASE-II]    Project Number: [119-2528]
*#  Date         : 2021.06.30
*#  Modified     : 2021.06.30
*#  Modeller     : [Z. Holland]
*#  Company      : C.F. Crozier & Associates Inc.
*#  License #    : 3737016
*#*****************************************************************************
START                 TZERO=[0.0],  METOUT=[2],  NSTORM=[0],  NRUN=[0]
*%                     [  ] <--storm filename, one per line for NSTORM time
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|----------2YR SCS 12 HR--------------------------------------|
*#-----------------|-------------------------------------------------------------|

MASS STORM            PTOTAL=[39.6](mm), CSDT=[1](min),
                      CURVE_FILENAME=["SCS12HII.mst"]

*%-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|-----------------POST-DEVELOPMENT----------------------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|---------------------OUTLET A--------------------------------|
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD          ID=[2], NHYD=["EXT-1"], DT=[1]min, AREA=[3.5](ha),
                      DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                      N=[3], TP=[0.13]hrs,
                      RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD          ID=[3], NHYD=["INT-3"], DT=[1]min, AREA=[0.2](ha),
                      DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                      N=[3], TP=[0.05]hrs,
                      RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD          ID=[4], NHYD=["UNC-1"], DT=[1]min, AREA=[0.8](ha),
                      DWF=[0](cms),  CN/C=[82], IA=[4.52](mm),
                      N=[3], TP=[0.28]hrs,
                      RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 825mm CULVERT       |
*#-----------------|-------------------------------------------------------------|
ADD HYD               IDsum=[1], NHYD=["825mm"], IDs to add=[2,3,4]
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|----------OUTLET B-------------------------------------------|
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD          ID=[5], NHYD=["EXT-2"], DT=[1]min, AREA=[4.1](ha),
                      DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                      N=[3], TP=[0.12]hrs,
                      RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD          ID=[8], NHYD=["EXT-3"], DT=[1]min, AREA=[2.2](ha),
                      DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                      N=[3], TP=[0.13]hrs,
                      RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
CALIB STANDHYD        ID=[6], NHYD=["INT-2"], DT=[1](min), AREA=[3](ha),
                      XIMP=[0.15], TIMP=[0.31], DWF=[0](cms), LOSS=[2],
                      SCS curve number CN=[79],
                      Pervious   surfaces: IAper=[5](mm), SLPP=[2](%),
                                           LGP=[65](m), MNP=[0.25], SCP=[0](min),
                      Impervious surfaces: IAimp=[2](mm), SLPI=[0.5](%),
                                           LGI=[141](m), MNI=[0.013], SCI=[0](min),
                      RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD          ID=[7], NHYD=["INT-4"], DT=[1]min, AREA=[0.6](ha),
                      DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                      N=[3], TP=[0.05]hrs,
                      RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
CALIB STANDHYD        ID=[9], NHYD=["INT-1"], DT=[1](min), AREA=[8.60](ha),
                      XIMP=[0.168], TIMP=[0.431], DWF=[0](cms), LOSS=[2],
                      SCS curve number CN=[79],
                      Pervious   surfaces: IAper=[5](mm), SLPP=[2](%),
                                           LGP=[65](m), MNP=[0.25], SCP=[0](min),
                      Impervious surfaces: IAimp=[2](mm), SLPI=[0.5](%),
                                           LGI=[239](m), MNI=[0.013], SCI=[0](min),
                      RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE SWMF-----------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
ADD HYD               IDsum=[4], NHYD=["POOL1INT"], IDs to add=[5,8,6,7,9]
*#-----------------|-------------------------------------------------------------|
CALIB STANDHYD        ID=[2], NHYD=["SWMF"], DT=[1](min), AREA=[0.80](ha),
                      XIMP=[0.5], TIMP=[0.5], DWF=[0](cms), LOSS=[2],
                      SCS curve number CN=[79],
                      Pervious   surfaces: IAper=[5](mm), SLPP=[2](%),
                                           LGP=[20](m), MNP=[0.25], SCP=[0](min),
                      Impervious surfaces: IAimp=[2](mm), SLPI=[2](%),
                                           LGI=[68](m), MNI=[0.013], SCI=[0](min),
                      RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|-------------------------------------------------------------|
ADD HYD               IDsum=[3], NHYD=["POOL1"], IDs to add=[4,2]
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
ROUTE RESERVOIR       IDout=[6],   NHYD=["POOL"],  IDin=[3],
                      RDT=[1](min),
                            TABLE of ( OUTFLOW-STORAGE ) values
                                        (cms) - (ha-m)
                                      [ 0.0 ,    0.0]
                                      [ 0.012,  0.126]
                                      [ 0.024,  0.189]
                                      [ 0.042,  0.251]
                                      [ 0.117,  0.440]
                                      [ 0.215,  0.564]
                                      [ 0.292,  0.652]
                                      [ 0.376,  0.743]
                                      [ 0.514,  0.887]
                                      [ 0.949,  1.317]
                                      [ 1.009,  1.339]
                                      [ 1.105,  1.360]
                                      [   -1  ,  -1  ]  (max twenty pts)
                            IDovf=[7], NHYDovf=["OVF1"]
*#-----------------|-------------------------------------------------------------|
CALIB STANDHYD        ID=[10], NHYD=["UNC-2"], DT=[1](min), AREA=[1.5](ha),
                      XIMP=[0.075], TIMP=[0.221], DWF=[0](cms), LOSS=[2],
                      SCS curve number CN=[79],
                      Pervious   surfaces: IAper=[5](mm), SLPP=[2](%),
                                           LGP=[65](m), MNP=[0.25], SCP=[0](min),
                      Impervious surfaces: IAimp=[2](mm), SLPI=[0.5](%),
                                           LGI=[100](m), MNI=[0.013], SCI=[0](min),
                      RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD          ID=[4], NHYD=["UNC-3"], DT=[1]min, AREA=[2.0](ha),
                      DWF=[0](cms),  CN/C=[75.3], IA=[8.57](mm),
                      N=[3], TP=[0.05]hrs,
                      RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 900mm CULVERT-------|
*#-----------------|-------------------------------------------------------------|
ADD HYD               IDsum=[2], NHYD=["900mm"], IDs to add=[4,6,7,10]
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|-----------OUTLET C------------------------------------------|
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD          ID=[4], NHYD=["EXT-4"], DT=[1]min, AREA=[2.6](ha),
                      DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                      N=[3], TP=[0.13]hrs,
                      RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD          ID=[5], NHYD=["EXT-5"], DT=[1]min, AREA=[5.2](ha),
                      DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                      N=[3], TP=[0.11]hrs,
                      RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD          ID=[8], NHYD=["INT-5"], DT=[1]min, AREA=[0.1](ha),
                      DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                      N=[3], TP=[0.05]hrs,
                      RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------THE ADD HYD MODELS FLOW TO WC21A----------------------|
*#-----------------|-------------------------------------------------------------|
ADD HYD               IDsum=[6], NHYD=["EXT4_5"], IDs to add=[4,5,8]
*#-----------------|-------------------------------------------------------------|
ROUTE CHANNEL         IDout=[5], NHYD=["WC21A"], IDin=[6],
                      RDT=[1](min),
                      CHLGTH=[730](m),  CHSLOPE=[5.5](%),
                                        FPSLOPE=[5.5](%),
                      SECNUM=[1.1],       NSEG=[3]
                      ( SEGROUGH, SEGDIST (m))=[0.07,4.8 -0.07,19.0 0.07,41] NSEG times
                      ( DISTANCE (m), ELEVATION (m))=[0,220]
                                                     [4.8,217.5]
                                                     [19.0,215]
                                                     [34,217.5]
                                                     [41,220]
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD          ID=[4], NHYD=["UNC-4"], DT=[1]min, AREA=[3.1](ha),
                      DWF=[0](cms),  CN/C=[37.0], IA=[8.97](mm),
                      N=[3], TP=[0.30]hrs,
                      RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------THE ADD HYD MODELS FLOW TO WC21A AT SITE--------------|
*#-----------------|-------------------------------------------------------------|
ADD HYD               IDsum=[3], NHYD=["EXT_UNC"], IDs to add=[5,4]
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD          ID=[7], NHYD=["Ext-6"], DT=[1]min, AREA=[6.0](ha),
                      DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                      N=[3], TP=[0.39]hrs,
                      RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD          ID=[9], NHYD=["Ext-7"], DT=[1]min, AREA=[6.0](ha),
                      DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                      N=[3], TP=[0.19]hrs,
                      RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD          ID=[10], NHYD=["Ext-8"], DT=[1]min, AREA=[13.1](ha),
                      DWF=[0](cms),  CN/C=[75.2], IA=[8.74](mm),
                      N=[3], TP=[0.40]hrs,
                      RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS SUBWATERSHED FLOW-----------------|
*#-----------------|-------------------------------------------------------------|
ADD HYD               IDsum=[4], NHYD=["NE_DITCH"], IDs to add=[7,3,9,10]
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD          ID=[6], NHYD=["Ext-9"], DT=[1]min, AREA=[7.0](ha),
                      DWF=[0](cms),  CN/C=[76.8], IA=[8.06](mm),
                      N=[3], TP=[0.34]hrs,
                      RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS Subwatershed 21A Outflow----------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
ADD HYD               IDsum=[5], NHYD=["21A"], IDs to add=[4,6]
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD          ID=[4], NHYD=["Ext-10A"], DT=[1]min, AREA=[27.9](ha),
                      DWF=[0](cms),  CN/C=[56.0], IA=[8.70](mm),
                      N=[3], TP=[0.20]hrs,
                      RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD          ID=[3], NHYD=["Ext-11"], DT=[1]min, AREA=[3.9](ha),
                      DWF=[0](cms),  CN/C=[72.9], IA=[7.96](mm),
                      N=[3], TP=[0.08]hrs,
                      RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD          ID=[6], NHYD=["Ext-12"], DT=[1]min, AREA=[5.2](ha),
                      DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                      N=[3], TP=[0.18]hrs,
                      RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO EX. STORAGE AREA--------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
ADD HYD               IDsum=[5], NHYD=["WET-STO"], IDs to add=[1,2,4,3,6]
*#-----------------|-------------------------------------------------------------|
ROUTE RESERVOIR       IDout=[4],    NHYD=["22"],  IDin=[5],
                      RDT=[1](min),
                            TABLE of ( OUTFLOW-STORAGE ) values
                                        (cms) - (ha-m)
                                      [  0.0 ,  0.0 ]
                                      [  0.0102 ,  0.002 ]
                                      [  0.04230 ,  0.004 ]
                                      [  0.0939 ,  0.006 ]
                                      [  0.1286 ,  0.008 ]
                                      [  0.16330 ,  0.045 ]
                                      [  0.2489 ,  0.262 ]
                                      [  0.3488 ,  0.622 ]
                                      [  0.4601 ,  1.088 ]
                                      [  0.51955 ,  1.623 ]
                                      [  0.579 ,  1.925 ]
                                      [  0.7014 ,  2.253 ]
                                      [  0.8216 ,  2.951 ]
                                      [  0.9345 ,  3.689 ]
                                      [   -1  ,  -1  ]  (max twenty pts)
                            IDovf=[6], NHYDovf=["OVF"]
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD          ID=[3], NHYD=["Ext-10B"], DT=[1]min, AREA=[4.9](ha),
                      DWF=[0](cms),  CN/C=[54.6], IA=[6.15](mm),
                      N=[3], TP=[0.17]hrs,
                      RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS SUBWATERSHED 22 OUTFLOW ----------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
ADD HYD               IDsum=[5], NHYD=["22"], IDs to add=[3,4,6]
*%-----------------|-------------------------------------------------------------|



*#-----------------|-------------------------------------------------------------|
*#-----------------|----------5YR SCS 12 HR--------------------------------------|
*#-----------------|-------------------------------------------------------------|

MASS STORM            PTOTAL=[55.2](mm), CSDT=[1](min),
                      CURVE_FILENAME=["SCS12HII.mst"]

*%-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|-----------------POST-DEVELOPMENT----------------------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|---------------------OUTLET A--------------------------------|
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD          ID=[2], NHYD=["EXT-1"], DT=[1]min, AREA=[3.5](ha),
                      DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                      N=[3], TP=[0.13]hrs,
                      RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD          ID=[3], NHYD=["INT-3"], DT=[1]min, AREA=[0.2](ha),
                      DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                      N=[3], TP=[0.05]hrs,
                      RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD          ID=[4], NHYD=["UNC-1"], DT=[1]min, AREA=[0.8](ha),
                      DWF=[0](cms),  CN/C=[82], IA=[4.52](mm),
                      N=[3], TP=[0.28]hrs,
                      RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 825mm CULVERT       |
*#-----------------|-------------------------------------------------------------|
ADD HYD               IDsum=[1], NHYD=["825mm"], IDs to add=[2,3,4]
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|----------OUTLET B-------------------------------------------|
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD          ID=[5], NHYD=["EXT-2"], DT=[1]min, AREA=[4.1](ha),
                      DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                      N=[3], TP=[0.12]hrs,
                      RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD          ID=[8], NHYD=["EXT-3"], DT=[1]min, AREA=[2.2](ha),
                      DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                      N=[3], TP=[0.13]hrs,
                      RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
CALIB STANDHYD        ID=[6], NHYD=["INT-2"], DT=[1](min), AREA=[3](ha),
                      XIMP=[0.15], TIMP=[0.31], DWF=[0](cms), LOSS=[2],
                      SCS curve number CN=[79],
                      Pervious   surfaces: IAper=[5](mm), SLPP=[2](%),
                                           LGP=[65](m), MNP=[0.25], SCP=[0](min),
                      Impervious surfaces: IAimp=[2](mm), SLPI=[0.5](%),
                                           LGI=[141](m), MNI=[0.013], SCI=[0](min),
                      RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD          ID=[7], NHYD=["INT-4"], DT=[1]min, AREA=[0.6](ha),
                      DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                      N=[3], TP=[0.05]hrs,
                      RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
CALIB STANDHYD        ID=[9], NHYD=["INT-1"], DT=[1](min), AREA=[8.60](ha),
                      XIMP=[0.168], TIMP=[0.431], DWF=[0](cms), LOSS=[2],
                      SCS curve number CN=[79],
                      Pervious   surfaces: IAper=[5](mm), SLPP=[2](%),
                                           LGP=[65](m), MNP=[0.25], SCP=[0](min),
                      Impervious surfaces: IAimp=[2](mm), SLPI=[0.5](%),
                                           LGI=[239](m), MNI=[0.013], SCI=[0](min),
                      RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE SWMF-----------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
ADD HYD               IDsum=[4], NHYD=["POOL1INT"], IDs to add=[5,8,6,7,9]
*#-----------------|-------------------------------------------------------------|
CALIB STANDHYD        ID=[2], NHYD=["SWMF"], DT=[1](min), AREA=[0.80](ha),
                      XIMP=[0.5], TIMP=[0.5], DWF=[0](cms), LOSS=[2],
                      SCS curve number CN=[79],
                      Pervious   surfaces: IAper=[5](mm), SLPP=[2](%),
                                           LGP=[20](m), MNP=[0.25], SCP=[0](min),
                      Impervious surfaces: IAimp=[2](mm), SLPI=[2](%),
                                           LGI=[68](m), MNI=[0.013], SCI=[0](min),
                      RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|-------------------------------------------------------------|
ADD HYD               IDsum=[3], NHYD=["POOL1"], IDs to add=[4,2]
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
ROUTE RESERVOIR       IDout=[6],   NHYD=["POOL"],  IDin=[3],
                      RDT=[1](min),
                            TABLE of ( OUTFLOW-STORAGE ) values
                                        (cms) - (ha-m)
                                      [ 0.0 ,    0.0]
                                      [ 0.012,  0.126]
                                      [ 0.024,  0.189]
                                      [ 0.042,  0.251]
                                      [ 0.117,  0.440]
                                      [ 0.215,  0.564]
                                      [ 0.292,  0.652]
                                      [ 0.376,  0.743]
                                      [ 0.514,  0.887]
                                      [ 0.949,  1.317]
                                      [ 1.009,  1.339]
                                      [ 1.105,  1.360]
                                      [   -1  ,  -1  ]  (max twenty pts)
                            IDovf=[7], NHYDovf=["OVF1"]
```

```
*#-----------------|-----------------------------------------------------------------|
CALIB STANDHYD       ID=[10], NHYD=["UNC-2"], DT=[1](min), AREA=[1.5](ha),
                     XIMP=[0.075], TIMP=[0.221], DWF=[0](cms), LOSS=[2],
                     SCS curve number CN=[79],
                     Pervious   surfaces: IAper=[5](mm), SLPP=[2](%),
                                          LGP=[65](m), MNP=[0.25], SCP=[0](min),
                     Impervious surfaces: IAimp=[2](mm), SLPI=[0.5](%),
                                          LGI=[100](m), MNI=[0.013], SCI=[0](min),
                     RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|-----------------------------------------------------------------|
CALIB NASHYD         ID=[4], NHYD=["UNC-3"], DT=[1]min, AREA=[2.0](ha),
                     DWF=[0](cms),  CN/C=[75.3], IA=[8.57](mm),
                     N=[3], TP=[0.05]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-----------------------------------------------------------------|
*#-----------------|-----------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 900mm CULVERT-----------|
*#-----------------|-----------------------------------------------------------------|
ADD HYD              IDsum=[2], NHYD=["900mm"], IDs to add=[4,6,7,10]
*#-----------------|-----------------------------------------------------------------|
*#-----------------|-----------------------------------------------------------------|
*#-----------------|----------OUTLET C-----------------------------------------------|
*#-----------------|-----------------------------------------------------------------|
CALIB NASHYD         ID=[4], NHYD=["EXT-4"], DT=[1]min, AREA=[2.6](ha),
                     DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                     N=[3], TP=[0.13]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-----------------------------------------------------------------|
CALIB NASHYD         ID=[5], NHYD=["EXT-5"], DT=[1]min, AREA=[5.2](ha),
                     DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                     N=[3], TP=[0.11]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-----------------------------------------------------------------|
CALIB NASHYD         ID=[8], NHYD=["INT-5"], DT=[1]min, AREA=[0.1](ha),
                     DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                     N=[3], TP=[0.05]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-----------------------------------------------------------------|
*#-----------------|-----------------------------------------------------------------|
*#-----------------|-------THE ADD HYD MODELS FLOW TO WC21A---------------------------|
*#-----------------|-----------------------------------------------------------------|
ADD HYD              IDsum=[6], NHYD=["EXT4_5"], IDs to add=[4,5,8]
*#-----------------|-----------------------------------------------------------------|
ROUTE CHANNEL        IDout=[5], NHYD=["WC21A"], IDin=[6],
                     RDT=[1](min),
                     CHLGTH=[730](m),  CHSLOPE=[5.5](%),
                                       FPSLOPE=[5.5](%),
                     SECNUM=[1.1],        NSEG=[3]
                     ( SEGROUGH, SEGDIST (m))=[0.07,4.8 -0.07,19.0 0.07,41] NSEG times
                     ( DISTANCE (m), ELEVATION (m))=[0,220]
                                                    [4.8,217.5]
                                                    [19.0,215]
                                                    [34,217.5]
                                                    [41,220]
*#-----------------|-----------------------------------------------------------------|
CALIB NASHYD         ID=[4], NHYD=["UNC-4"], DT=[1]min, AREA=[3.1](ha),
                     DWF=[0](cms),  CN/C=[37.0], IA=[8.97](mm),
                     N=[3], TP=[0.30]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-----------------------------------------------------------------|
*#-----------------|-------THE ADD HYD MODELS FLOW TO WC21A AT SITE-------------------|
*#-----------------|-----------------------------------------------------------------|
ADD HYD              IDsum=[3], NHYD=["EXT_UNC"], IDs to add=[5,4]
*#-----------------|-----------------------------------------------------------------|
*#-----------------|-----------------------------------------------------------------|
CALIB NASHYD         ID=[7], NHYD=["Ext-6"], DT=[1]min, AREA=[6.0](ha),
                     DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                     N=[3], TP=[0.39]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-----------------------------------------------------------------|
CALIB NASHYD         ID=[9], NHYD=["Ext-7"], DT=[1]min, AREA=[6.0](ha),
                     DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                     N=[3], TP=[0.19]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-----------------------------------------------------------------|
CALIB NASHYD         ID=[10], NHYD=["Ext-8"], DT=[1]min, AREA=[13.1](ha),
                     DWF=[0](cms),  CN/C=[75.2], IA=[8.74](mm),
                     N=[3], TP=[0.40]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-----------------------------------------------------------------|
*#-----------------|-----------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS SUBWATERSHED FLOW----------------------|
*#-----------------|-----------------------------------------------------------------|
ADD HYD              IDsum=[4], NHYD=["NE_DITCH"], IDs to add=[7,3,9,10]
*#-----------------|-----------------------------------------------------------------|
CALIB NASHYD         ID=[6], NHYD=["Ext-9"], DT=[1]min, AREA=[7.0](ha),
                     DWF=[0](cms),  CN/C=[76.8], IA=[8.06](mm),
                     N=[3], TP=[0.34]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-----------------------------------------------------------------|
*#-----------------|-----------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS Subwatershed 21A Outflow--------------|
*#-----------------|-----------------------------------------------------------------|
*#-----------------|-----------------------------------------------------------------|
ADD HYD              IDsum=[5], NHYD=["21A"], IDs to add=[4,6]
*#-----------------|-----------------------------------------------------------------|
CALIB NASHYD         ID=[4], NHYD=["Ext-10A"], DT=[1]min, AREA=[27.9](ha),
                     DWF=[0](cms),  CN/C=[56.0], IA=[8.70](mm),
                     N=[3], TP=[0.20]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-----------------------------------------------------------------|
CALIB NASHYD         ID=[3], NHYD=["Ext-11"], DT=[1]min, AREA=[3.9](ha),
                     DWF=[0](cms),  CN/C=[72.9], IA=[7.96](mm),
                     N=[3], TP=[0.08]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-----------------------------------------------------------------|
CALIB NASHYD         ID=[6], NHYD=["Ext-12"], DT=[1]min, AREA=[5.2](ha),
                     DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                     N=[3], TP=[0.18]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-----------------------------------------------------------------|
*#-----------------|-----------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO EX. STORAGE AREA------------|
*#-----------------|-----------------------------------------------------------------|
*#-----------------|-----------------------------------------------------------------|
ADD HYD              IDsum=[5], NHYD=["WET-STO"], IDs to add=[1,2,4,3,6]
*#-----------------|-----------------------------------------------------------------|
ROUTE RESERVOIR      IDout=[4],   NHYD=["22"],  IDin=[5],
                     RDT=[1](min),
                           TABLE of ( OUTFLOW-STORAGE ) values
                                       (cms) - (ha-m)
                                     [   0.0 ,  0.0 ]
                                     [   0.0102 ,  0.002 ]
                                     [   0.04230 ,  0.004 ]
                                     [   0.0939 ,  0.006 ]
                                     [   0.1286 ,  0.008 ]
                                     [   0.16330 ,  0.045 ]
                                     [   0.2489 ,  0.262 ]
                                     [   0.3488 ,  0.622 ]
                                     [   0.4601 ,  1.088 ]
                                     [   0.51955 ,  1.623 ]
                                     [   0.579 ,  1.925 ]
                                     [   0.7014 ,  2.253 ]
                                     [   0.8216 ,  2.951 ]
                                     [   0.9345 ,  3.689 ]
                                     [   -1  ,  -1  ]  (max twenty pts)
                           IDovf=[6], NHYDovf=["OVF"]
*#-----------------|-----------------------------------------------------------------|
CALIB NASHYD         ID=[3], NHYD=["Ext-10B"], DT=[1]min, AREA=[4.9](ha),
                     DWF=[0](cms),  CN/C=[54.6], IA=[6.15](mm),
                     N=[3], TP=[0.17]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-----------------------------------------------------------------|
*#-----------------|-----------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS SUBWATERSHED 22 OUTFLOW ---------------|
*#-----------------|-----------------------------------------------------------------|
*#-----------------|-----------------------------------------------------------------|
ADD HYD              IDsum=[5], NHYD=["22"], IDs to add=[3,4,6]
*%-----------------|-----------------------------------------------------------------|



*#-----------------|-----------------------------------------------------------------|
*#-----------------|----------10YR SCS 12 HR------------------------------------------|
*#-----------------|-----------------------------------------------------------------|

MASS STORM           PTOTAL=[66](mm), CSDT=[1](min),
                     CURVE_FILENAME=["SCS12HII.mst"]

*%-----------------|-----------------------------------------------------------------|
*#-----------------|-----------------------------------------------------------------|
*#-----------------|-----------------POST-DEVELOPMENT--------------------------------|
*#-----------------|-----------------------------------------------------------------|
*#-----------------|---------------------OUTLET A------------------------------------|
*#-----------------|-----------------------------------------------------------------|
CALIB NASHYD         ID=[2], NHYD=["EXT-1"], DT=[1]min, AREA=[3.5](ha),
                     DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                     N=[3], TP=[0.13]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-----------------------------------------------------------------|
CALIB NASHYD         ID=[3], NHYD=["INT-3"], DT=[1]min, AREA=[0.2](ha),
                     DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                     N=[3], TP=[0.05]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-----------------------------------------------------------------|
CALIB NASHYD         ID=[4], NHYD=["UNC-1"], DT=[1]min, AREA=[0.8](ha),
                     DWF=[0](cms),  CN/C=[82], IA=[4.52](mm),
                     N=[3], TP=[0.28]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-----------------------------------------------------------------|
*#-----------------|-----------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 825mm CULVERT            |
*#-----------------|-----------------------------------------------------------------|
ADD HYD              IDsum=[1], NHYD=["825mm"], IDs to add=[2,3,4]
*#-----------------|-----------------------------------------------------------------|
*#-----------------|-----------------------------------------------------------------|
*#-----------------|----------OUTLET B-----------------------------------------------|
*#-----------------|-----------------------------------------------------------------|
CALIB NASHYD         ID=[5], NHYD=["EXT-2"], DT=[1]min, AREA=[4.1](ha),
                     DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                     N=[3], TP=[0.12]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-----------------------------------------------------------------|
CALIB NASHYD         ID=[8], NHYD=["EXT-3"], DT=[1]min, AREA=[2.2](ha),
                     DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                     N=[3], TP=[0.13]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-----------------------------------------------------------------|
CALIB STANDHYD       ID=[6], NHYD=["INT-2"], DT=[1](min), AREA=[3](ha),
                     XIMP=[0.15], TIMP=[0.31], DWF=[0](cms), LOSS=[2],
                     SCS curve number CN=[79],
                     Pervious   surfaces: IAper=[5](mm), SLPP=[2](%),
                                          LGP=[65](m), MNP=[0.25], SCP=[0](min),
                     Impervious surfaces: IAimp=[2](mm), SLPI=[0.5](%),
                                          LGI=[141](m), MNI=[0.013], SCI=[0](min),
                     RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|-----------------------------------------------------------------|
CALIB NASHYD         ID=[7], NHYD=["INT-4"], DT=[1]min, AREA=[0.6](ha),
                     DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                     N=[3], TP=[0.05]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-----------------------------------------------------------------|
CALIB STANDHYD       ID=[9], NHYD=["INT-1"], DT=[1](min), AREA=[8.60](ha),
                     XIMP=[0.168], TIMP=[0.431], DWF=[0](cms), LOSS=[2],
                     SCS curve number CN=[79],
                     Pervious   surfaces: IAper=[5](mm), SLPP=[2](%),
                                          LGP=[65](m), MNP=[0.25], SCP=[0](min),
                     Impervious surfaces: IAimp=[2](mm), SLPI=[0.5](%),
                                          LGI=[239](m), MNI=[0.013], SCI=[0](min),
                     RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|-----------------------------------------------------------------|
*#-----------------|-----------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE SWMF--------------------|
*#-----------------|-----------------------------------------------------------------|
*#-----------------|-----------------------------------------------------------------|
ADD HYD              IDsum=[4], NHYD=["POOL1INT"], IDs to add=[5,8,6,7,9]
*#-----------------|-----------------------------------------------------------------|
CALIB STANDHYD       ID=[2], NHYD=["SWMF"], DT=[1](min), AREA=[0.80](ha),
                     XIMP=[0.5], TIMP=[0.5], DWF=[0](cms), LOSS=[2],
                     SCS curve number CN=[79],
                     Pervious   surfaces: IAper=[5](mm), SLPP=[2](%),
                                          LGP=[20](m), MNP=[0.25], SCP=[0](min),
                     Impervious surfaces: IAimp=[2](mm), SLPI=[2](%),
                                          LGI=[68](m), MNI=[0.013], SCI=[0](min),
                     RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|-----------------------------------------------------------------|
ADD HYD              IDsum=[3], NHYD=["POOL1"], IDs to add=[4,2]
*#-----------------|-----------------------------------------------------------------|
*#-----------------|-----------------------------------------------------------------|
ROUTE RESERVOIR      IDout=[6],   NHYD=["POOL"],  IDin=[3],
                     RDT=[1](min),
                           TABLE of ( OUTFLOW-STORAGE ) values
                                      (cms) - (ha-m)
                                    [ 0.0 ,    0.0]
                                    [ 0.012,  0.126]
                                    [ 0.024,  0.189]
                                    [ 0.042,  0.251]
                                    [ 0.117,  0.440]
                                    [ 0.215,  0.564]
                                    [ 0.292,  0.652]
                                    [ 0.376,  0.743]
                                    [ 0.514,  0.887]
                                    [ 0.949,  1.317]
                                    [ 1.009,  1.339]
                                    [ 1.105,  1.360]
                                    [   -1  ,  -1  ]  (max twenty pts)
                           IDovf=[7], NHYDovf=["OVF1"]
*#-----------------|-----------------------------------------------------------------|
CALIB STANDHYD       ID=[10], NHYD=["UNC-2"], DT=[1](min), AREA=[1.5](ha),
                     XIMP=[0.075], TIMP=[0.221], DWF=[0](cms), LOSS=[2],
                     SCS curve number CN=[79],
                     Pervious   surfaces: IAper=[5](mm), SLPP=[2](%),
                                          LGP=[65](m), MNP=[0.25], SCP=[0](min),
                     Impervious surfaces: IAimp=[2](mm), SLPI=[0.5](%),
                                          LGI=[100](m), MNI=[0.013], SCI=[0](min),
                     RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|-----------------------------------------------------------------|
CALIB NASHYD         ID=[4], NHYD=["UNC-3"], DT=[1]min, AREA=[2.0](ha),
                     DWF=[0](cms),  CN/C=[75.3], IA=[8.57](mm),
                     N=[3], TP=[0.05]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-----------------------------------------------------------------|
*#-----------------|-----------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 900mm CULVERT-----------|
*#-----------------|-----------------------------------------------------------------|
ADD HYD              IDsum=[2], NHYD=["900mm"], IDs to add=[4,6,7,10]
*#-----------------|-----------------------------------------------------------------|
*#-----------------|-----------------------------------------------------------------|
*#-----------------|----------OUTLET C-----------------------------------------------|
*#-----------------|-----------------------------------------------------------------|
CALIB NASHYD         ID=[4], NHYD=["EXT-4"], DT=[1]min, AREA=[2.6](ha),
                     DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                     N=[3], TP=[0.13]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-----------------------------------------------------------------|
CALIB NASHYD         ID=[5], NHYD=["EXT-5"], DT=[1]min, AREA=[5.2](ha),
                     DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                     N=[3], TP=[0.11]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-----------------------------------------------------------------|
CALIB NASHYD         ID=[8], NHYD=["INT-5"], DT=[1]min, AREA=[0.1](ha),
                     DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                     N=[3], TP=[0.05]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-----------------------------------------------------------------|
*#-----------------|-----------------------------------------------------------------|
*#-----------------|-------THE ADD HYD MODELS FLOW TO WC21A---------------------------|
*#-----------------|-----------------------------------------------------------------|
ADD HYD              IDsum=[6], NHYD=["EXT4_5"], IDs to add=[4,5,8]
*#-----------------|-----------------------------------------------------------------|
ROUTE CHANNEL        IDout=[5], NHYD=["WC21A"], IDin=[6],
                     RDT=[1](min),
                     CHLGTH=[730](m),  CHSLOPE=[5.5](%),
                                       FPSLOPE=[5.5](%),
                     SECNUM=[1.1],        NSEG=[3]
                     ( SEGROUGH, SEGDIST (m))=[0.07,4.8 -0.07,19.0 0.07,41] NSEG times
                     ( DISTANCE (m), ELEVATION (m))=[0,220]
                                                    [4.8,217.5]
                                                    [19.0,215]
                                                    [34,217.5]
                                                    [41,220]
*#-----------------|-----------------------------------------------------------------|
CALIB NASHYD         ID=[4], NHYD=["UNC-4"], DT=[1]min, AREA=[3.1](ha),
                     DWF=[0](cms),  CN/C=[37.0], IA=[8.97](mm),
                     N=[3], TP=[0.30]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-----------------------------------------------------------------|
*#-----------------|-------THE ADD HYD MODELS FLOW TO WC21A AT SITE-------------------|
*#-----------------|-----------------------------------------------------------------|
ADD HYD              IDsum=[3], NHYD=["EXT_UNC"], IDs to add=[5,4]
*#-----------------|-----------------------------------------------------------------|
*#-----------------|-----------------------------------------------------------------|
CALIB NASHYD         ID=[7], NHYD=["Ext-6"], DT=[1]min, AREA=[6.0](ha),
                     DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                     N=[3], TP=[0.39]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-----------------------------------------------------------------|
CALIB NASHYD         ID=[9], NHYD=["Ext-7"], DT=[1]min, AREA=[6.0](ha),
                     DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                     N=[3], TP=[0.19]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-----------------------------------------------------------------|
CALIB NASHYD         ID=[10], NHYD=["Ext-8"], DT=[1]min, AREA=[13.1](ha),
                     DWF=[0](cms),  CN/C=[75.2], IA=[8.74](mm),
                     N=[3], TP=[0.40]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-----------------------------------------------------------------|
*#-----------------|-----------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS SUBWATERSHED FLOW----------------------|
*#-----------------|-----------------------------------------------------------------|
ADD HYD              IDsum=[4], NHYD=["NE_DITCH"], IDs to add=[7,3,9,10]
*#-----------------|-----------------------------------------------------------------|
CALIB NASHYD         ID=[6], NHYD=["Ext-9"], DT=[1]min, AREA=[7.0](ha),
                     DWF=[0](cms),  CN/C=[76.8], IA=[8.06](mm),
                     N=[3], TP=[0.34]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-----------------------------------------------------------------|
*#-----------------|-----------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS Subwatershed 21A Outflow--------------|
*#-----------------|-----------------------------------------------------------------|
*#-----------------|-----------------------------------------------------------------|
ADD HYD              IDsum=[5], NHYD=["21A"], IDs to add=[4,6]
*#-----------------|-----------------------------------------------------------------|
CALIB NASHYD         ID=[4], NHYD=["Ext-10A"], DT=[1]min, AREA=[27.9](ha),
                     DWF=[0](cms),  CN/C=[56.0], IA=[8.70](mm),
                     N=[3], TP=[0.20]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-----------------------------------------------------------------|
CALIB NASHYD         ID=[3], NHYD=["Ext-11"], DT=[1]min, AREA=[3.9](ha),
                     DWF=[0](cms),  CN/C=[72.9], IA=[7.96](mm),
                     N=[3], TP=[0.08]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-----------------------------------------------------------------|
CALIB NASHYD         ID=[6], NHYD=["Ext-12"], DT=[1]min, AREA=[5.2](ha),
                     DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                     N=[3], TP=[0.18]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-----------------------------------------------------------------|
*#-----------------|-----------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO EX. STORAGE AREA------------|
*#-----------------|-----------------------------------------------------------------|
*#-----------------|-----------------------------------------------------------------|
ADD HYD              IDsum=[5], NHYD=["WET-STO"], IDs to add=[1,2,4,3,6]
*#-----------------|-----------------------------------------------------------------|
```

```
ROUTE RESERVOIR     IDout=[4],   NHYD=["22"],  IDin=[5],
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                      (cms) - (ha-m)
                                    [   0.0 ,  0.0 ]
                                    [   0.0102 ,  0.002 ]
                                    [   0.04230 ,  0.004 ]
                                    [   0.0939 ,  0.006 ]
                                    [   0.1286 ,  0.008 ]
                                    [   0.16330 ,  0.045 ]
                                    [   0.2489 ,  0.262 ]
                                    [   0.3488 ,  0.622 ]
                                    [   0.4601 ,  1.088 ]
                                    [   0.51955 ,  1.623 ]
                                    [   0.579 ,  1.925 ]
                                    [   0.7014 ,  2.253 ]
                                    [   0.8216 ,  2.951 ]
                                    [   0.9345 ,  3.689 ]
                                    [   -1  ,  -1  ]  (max twenty pts)
                          IDovf=[6], NHYDovf=["OVF"]
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD        ID=[3], NHYD=["Ext-10B"], DT=[1]min, AREA=[4.9](ha),
                    DWF=[0](cms),  CN/C=[54.6], IA=[6.15](mm),
                    N=[3], TP=[0.17]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS SUBWATERSHED 22 OUTFLOW --------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
ADD HYD             IDsum=[5], NHYD=["22"], IDs to add=[3,4,6]
*%-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|----------25YR SCS 12 HR-------------------------------------|
*#-----------------|-------------------------------------------------------------|
MASS STORM          PTOTAL=[79.2](mm), CSDT=[1](min),
                    CURVE_FILENAME=["SCS12HII.mst"]
*%-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|-----------------POST-DEVELOPMENT----------------------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|---------------------OUTLET A--------------------------------|
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD        ID=[2], NHYD=["EXT-1"], DT=[1]min, AREA=[3.5](ha),
                    DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                    N=[3], TP=[0.13]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD        ID=[3], NHYD=["INT-3"], DT=[1]min, AREA=[0.2](ha),
                    DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                    N=[3], TP=[0.05]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD        ID=[4], NHYD=["UNC-1"], DT=[1]min, AREA=[0.8](ha),
                    DWF=[0](cms),  CN/C=[82], IA=[4.52](mm),
                    N=[3], TP=[0.28]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 825mm CULVERT      |
*#-----------------|-------------------------------------------------------------|
ADD HYD             IDsum=[1], NHYD=["825mm"], IDs to add=[2,3,4]
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|----------OUTLET B-------------------------------------------|
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD        ID=[5], NHYD=["EXT-2"], DT=[1]min, AREA=[4.1](ha),
                    DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                    N=[3], TP=[0.12]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD        ID=[8], NHYD=["EXT-3"], DT=[1]min, AREA=[2.2](ha),
                    DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                    N=[3], TP=[0.13]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
CALIB STANDHYD      ID=[6], NHYD=["INT-2"], DT=[1](min), AREA=[3](ha),
                    XIMP=[0.15], TIMP=[0.31], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[79],
                    Pervious   surfaces: IAper=[5](mm), SLPP=[2](%),
                                         LGP=[65](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2](mm), SLPI=[0.5](%),
                                         LGI=[141](m), MNI=[0.013], SCI=[0](min),
                    RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD        ID=[7], NHYD=["INT-4"], DT=[1]min, AREA=[0.6](ha),
                    DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                    N=[3], TP=[0.05]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
CALIB STANDHYD      ID=[9], NHYD=["INT-1"], DT=[1](min), AREA=[8.60](ha),
                    XIMP=[0.168], TIMP=[0.431], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[79],
                    Pervious   surfaces: IAper=[5](mm), SLPP=[2](%),
                                         LGP=[65](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2](mm), SLPI=[0.5](%),
                                         LGI=[239](m), MNI=[0.013], SCI=[0](min),
                    RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE SWMF--------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
ADD HYD             IDsum=[4], NHYD=["POOL1INT"], IDs to add=[5,8,6,7,9]
*#-----------------|-------------------------------------------------------------|
CALIB STANDHYD      ID=[2], NHYD=["SWMF"], DT=[1](min), AREA=[0.80](ha),
                    XIMP=[0.5], TIMP=[0.5], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[79],
                    Pervious   surfaces: IAper=[5](mm), SLPP=[2](%),
                                         LGP=[20](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2](mm), SLPI=[2](%),
                                         LGI=[68](m), MNI=[0.013], SCI=[0](min),
                    RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|-------------------------------------------------------------|
ADD HYD             IDsum=[3], NHYD=["POOL1"], IDs to add=[4,2]
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
ROUTE RESERVOIR     IDout=[6],   NHYD=["POOL"],  IDin=[3],
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                      (cms) - (ha-m)
                                    [ 0.0 ,    0.0]
                                    [ 0.012,  0.126]
                                    [ 0.024,  0.189]
                                    [ 0.042,  0.251]
                                    [ 0.117,  0.440]
                                    [ 0.215,  0.564]
                                    [ 0.292,  0.652]
                                    [ 0.376,  0.743]
                                    [ 0.514,  0.887]
                                    [ 0.949,  1.317]
                                    [ 1.009,  1.339]
                                    [ 1.105,  1.360]
                                    [   -1  ,  -1  ]  (max twenty pts)
                          IDovf=[7], NHYDovf=["OVF1"]
*#-----------------|-------------------------------------------------------------|
CALIB STANDHYD      ID=[10], NHYD=["UNC-2"], DT=[1](min), AREA=[1.5](ha),
                    XIMP=[0.075], TIMP=[0.221], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[79],
                    Pervious   surfaces: IAper=[5](mm), SLPP=[2](%),
                                         LGP=[65](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2](mm), SLPI=[0.5](%),
                                         LGI=[100](m), MNI=[0.013], SCI=[0](min),
                    RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD        ID=[4], NHYD=["UNC-3"], DT=[1]min, AREA=[2.0](ha),
                    DWF=[0](cms),  CN/C=[75.3], IA=[8.57](mm),
                    N=[3], TP=[0.05]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 900mm CULVERT-----|
*#-----------------|-------------------------------------------------------------|
ADD HYD             IDsum=[2], NHYD=["900mm"], IDs to add=[4,6,7,10]
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|----------OUTLET C-------------------------------------------|
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD        ID=[4], NHYD=["EXT-4"], DT=[1]min, AREA=[2.6](ha),
                    DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                    N=[3], TP=[0.13]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD        ID=[5], NHYD=["EXT-5"], DT=[1]min, AREA=[5.2](ha),
                    DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                    N=[3], TP=[0.11]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD        ID=[8], NHYD=["INT-5"], DT=[1]min, AREA=[0.1](ha),
                    DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                    N=[3], TP=[0.05]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------THE ADD HYD MODELS FLOW TO WC21A-----------------------|
*#-----------------|-------------------------------------------------------------|
ADD HYD             IDsum=[6], NHYD=["EXT4_5"], IDs to add=[4,5,8]
*#-----------------|-------------------------------------------------------------|
ROUTE CHANNEL       IDout=[5], NHYD=["WC21A"], IDin=[6],
                    RDT=[1](min),
                    CHLGTH=[730](m),  CHSLOPE=[5.5](%),
                                         FPSLOPE=[5.5](%),
                    SECNUM=[1.1],        NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=[0.07,4.8 -0.07,19.0 0.07,41] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=[0,220]
                                                   [4.8,217.5]
                                                   [19.0,215]
                                                   [34,217.5]
                                                   [41,220]
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD        ID=[4], NHYD=["UNC-4"], DT=[1]min, AREA=[3.1](ha),
                    DWF=[0](cms),  CN/C=[37.0], IA=[8.97](mm),
                    N=[3], TP=[0.30]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------THE ADD HYD MODELS FLOW TO WC21A AT SITE---------------|
*#-----------------|-------------------------------------------------------------|
ADD HYD             IDsum=[3], NHYD=["EXT_UNC"], IDs to add=[5,4]
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD        ID=[7], NHYD=["Ext-6"], DT=[1]min, AREA=[6.0](ha),
                    DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                    N=[3], TP=[0.39]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD        ID=[9], NHYD=["Ext-7"], DT=[1]min, AREA=[6.0](ha),
                    DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                    N=[3], TP=[0.19]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD        ID=[10], NHYD=["Ext-8"], DT=[1]min, AREA=[13.1](ha),
                    DWF=[0](cms),  CN/C=[75.2], IA=[8.74](mm),
                    N=[3], TP=[0.40]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS SUBWATERSHED FLOW--------------|
*#-----------------|-------------------------------------------------------------|
ADD HYD             IDsum=[4], NHYD=["NE_DITCH"], IDs to add=[7,3,9,10]
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD        ID=[6], NHYD=["Ext-9"], DT=[1]min, AREA=[7.0](ha),
                    DWF=[0](cms),  CN/C=[76.8], IA=[8.06](mm),
                    N=[3], TP=[0.34]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS Subwatershed 21A Outflow--------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
ADD HYD             IDsum=[5], NHYD=["21A"], IDs to add=[4,6]
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD        ID=[4], NHYD=["Ext-10A"], DT=[1]min, AREA=[27.9](ha),
                    DWF=[0](cms),  CN/C=[56.0], IA=[8.70](mm),
                    N=[3], TP=[0.20]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD        ID=[3], NHYD=["Ext-11"], DT=[1]min, AREA=[3.9](ha),
                    DWF=[0](cms),  CN/C=[72.9], IA=[7.96](mm),
                    N=[3], TP=[0.08]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD        ID=[6], NHYD=["Ext-12"], DT=[1]min, AREA=[5.2](ha),
                    DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                    N=[3], TP=[0.18]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO EX. STORAGE AREA------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
ADD HYD             IDsum=[5], NHYD=["WET-STO"], IDs to add=[1,2,4,3,6]
*#-----------------|-------------------------------------------------------------|
ROUTE RESERVOIR     IDout=[4],   NHYD=["22"],  IDin=[5],
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                      (cms) - (ha-m)
                                    [   0.0 ,  0.0 ]
                                    [   0.0102 ,  0.002 ]
                                    [   0.04230 ,  0.004 ]
                                    [   0.0939 ,  0.006 ]
                                    [   0.1286 ,  0.008 ]
                                    [   0.16330 ,  0.045 ]
                                    [   0.2489 ,  0.262 ]
                                    [   0.3488 ,  0.622 ]
                                    [   0.4601 ,  1.088 ]
                                    [   0.51955 ,  1.623 ]
                                    [   0.579 ,  1.925 ]
                                    [   0.7014 ,  2.253 ]
                                    [   0.8216 ,  2.951 ]
                                    [   0.9345 ,  3.689 ]
                                    [   -1  ,  -1  ]  (max twenty pts)
                          IDovf=[6], NHYDovf=["OVF"]
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD        ID=[3], NHYD=["Ext-10B"], DT=[1]min, AREA=[4.9](ha),
                    DWF=[0](cms),  CN/C=[54.6], IA=[6.15](mm),
                    N=[3], TP=[0.17]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS SUBWATERSHED 22 OUTFLOW --------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
ADD HYD             IDsum=[5], NHYD=["22"], IDs to add=[3,4,6]
*%-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|----------50YR SCS 12 HR-------------------------------------|
*#-----------------|-------------------------------------------------------------|
MASS STORM          PTOTAL=[88.8](mm), CSDT=[1](min),
                    CURVE_FILENAME=["SCS12HII.mst"]
*%-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|-----------------POST-DEVELOPMENT----------------------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|---------------------OUTLET A--------------------------------|
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD        ID=[2], NHYD=["EXT-1"], DT=[1]min, AREA=[3.5](ha),
                    DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                    N=[3], TP=[0.13]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD        ID=[3], NHYD=["INT-3"], DT=[1]min, AREA=[0.2](ha),
                    DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                    N=[3], TP=[0.05]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD        ID=[4], NHYD=["UNC-1"], DT=[1]min, AREA=[0.8](ha),
                    DWF=[0](cms),  CN/C=[82], IA=[4.52](mm),
                    N=[3], TP=[0.28]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 825mm CULVERT      |
*#-----------------|-------------------------------------------------------------|
ADD HYD             IDsum=[1], NHYD=["825mm"], IDs to add=[2,3,4]
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|----------OUTLET B-------------------------------------------|
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD        ID=[5], NHYD=["EXT-2"], DT=[1]min, AREA=[4.1](ha),
                    DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                    N=[3], TP=[0.12]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD        ID=[8], NHYD=["EXT-3"], DT=[1]min, AREA=[2.2](ha),
                    DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                    N=[3], TP=[0.13]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
CALIB STANDHYD      ID=[6], NHYD=["INT-2"], DT=[1](min), AREA=[3](ha),
                    XIMP=[0.15], TIMP=[0.31], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[79],
                    Pervious   surfaces: IAper=[5](mm), SLPP=[2](%),
                                         LGP=[65](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2](mm), SLPI=[0.5](%),
                                         LGI=[141](m), MNI=[0.013], SCI=[0](min),
                    RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD        ID=[7], NHYD=["INT-4"], DT=[1]min, AREA=[0.6](ha),
                    DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                    N=[3], TP=[0.05]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
CALIB STANDHYD      ID=[9], NHYD=["INT-1"], DT=[1](min), AREA=[8.60](ha),
                    XIMP=[0.168], TIMP=[0.431], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[79],
                    Pervious   surfaces: IAper=[5](mm), SLPP=[2](%),
                                         LGP=[65](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2](mm), SLPI=[0.5](%),
                                         LGI=[239](m), MNI=[0.013], SCI=[0](min),
                    RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE SWMF--------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
ADD HYD             IDsum=[4], NHYD=["POOL1INT"], IDs to add=[5,8,6,7,9]
*#-----------------|-------------------------------------------------------------|
CALIB STANDHYD      ID=[2], NHYD=["SWMF"], DT=[1](min), AREA=[0.80](ha),
                    XIMP=[0.5], TIMP=[0.5], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[79],
                    Pervious   surfaces: IAper=[5](mm), SLPP=[2](%),
```

```
                                         LGP=[20](m), MNP=[0.25], SCP=[0](min),
                     Impervious surfaces: IAimp=[2](mm), SLPI=[2](%),
                                         LGI=[68](m), MNI=[0.013], SCI=[0](min),
                     RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|-------------------------------------------------------------|
ADD HYD              IDsum=[3], NHYD=["POOL1"], IDs to add=[4,2]
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
ROUTE RESERVOIR      IDout=[6],   NHYD=["POOL"],  IDin=[3],
                     RDT=[1](min),
                           TABLE of ( OUTFLOW-STORAGE ) values
                                       (cms) - (ha-m)
                                     [ 0.0 ,    0.0]
                                     [ 0.012,  0.126]
                                     [ 0.024,  0.189]
                                     [ 0.042,  0.251]
                                     [ 0.117,  0.440]
                                     [ 0.215,  0.564]
                                     [ 0.292,  0.652]
                                     [ 0.376,  0.743]
                                     [ 0.514,  0.887]
                                     [ 0.949,  1.317]
                                     [ 1.009,  1.339]
                                     [ 1.105,  1.360]
                                     [   -1  ,  -1  ]  (max twenty pts)
                           IDovf=[7], NHYDovf=["OVF1"]
*#-----------------|-------------------------------------------------------------|
CALIB STANDHYD       ID=[10], NHYD=["UNC-2"], DT=[1](min), AREA=[1.5](ha),
                     XIMP=[0.075], TIMP=[0.221], DWF=[0](cms), LOSS=[2],
                     SCS curve number CN=[79],
                     Pervious   surfaces: IAper=[5](mm), SLPP=[2](%),
                                         LGP=[65](m), MNP=[0.25], SCP=[0](min),
                     Impervious surfaces: IAimp=[2](mm), SLPI=[0.5](%),
                                         LGI=[100](m), MNI=[0.013], SCI=[0](min),
                     RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD         ID=[4], NHYD=["UNC-3"], DT=[1]min, AREA=[2.0](ha),
                     DWF=[0](cms),  CN/C=[75.3], IA=[8.57](mm),
                     N=[3], TP=[0.05]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 900mm CULVERT-----|
*#-----------------|-------------------------------------------------------------|
ADD HYD              IDsum=[2], NHYD=["900mm"], IDs to add=[4,6,7,10]
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|-----------OUTLET C---------------------------------------|
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD         ID=[4], NHYD=["EXT-4"], DT=[1]min, AREA=[2.6](ha),
                     DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                     N=[3], TP=[0.13]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD         ID=[5], NHYD=["EXT-5"], DT=[1]min, AREA=[5.2](ha),
                     DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                     N=[3], TP=[0.11]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD         ID=[8], NHYD=["INT-5"], DT=[1]min, AREA=[0.1](ha),
                     DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                     N=[3], TP=[0.05]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------THE ADD HYD MODELS FLOW TO WC21A--------------------|
*#-----------------|-------------------------------------------------------------|
ADD HYD              IDsum=[6], NHYD=["EXT4_5"], IDs to add=[4,5,8]
*#-----------------|-------------------------------------------------------------|
ROUTE CHANNEL        IDout=[5], NHYD=["WC21A"], IDin=[6],
                     RDT=[1](min),
                     CHLGTH=[730](m),  CHSLOPE=[5.5](%),
                                        FPSLOPE=[5.5](%),
                     SECNUM=[1.1],       NSEG=[3]
                     ( SEGROUGH, SEGDIST (m))=[0.07,4.8 -0.07,19.0 0.07,41] NSEG times
                     ( DISTANCE (m), ELEVATION (m))=[0,220]
                                                   [4.8,217.5]
                                                   [19.0,215]
                                                   [34,217.5]
                                                   [41,220]
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD         ID=[4], NHYD=["UNC-4"], DT=[1]min, AREA=[3.1](ha),
                     DWF=[0](cms),  CN/C=[37.0], IA=[8.97](mm),
                     N=[3], TP=[0.30]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------THE ADD HYD MODELS FLOW TO WC21A AT SITE------------|
*#-----------------|-------------------------------------------------------------|
ADD HYD              IDsum=[3], NHYD=["EXT_UNC"], IDs to add=[5,4]
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD         ID=[7], NHYD=["Ext-6"], DT=[1]min, AREA=[6.0](ha),
                     DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                     N=[3], TP=[0.39]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD         ID=[9], NHYD=["Ext-7"], DT=[1]min, AREA=[6.0](ha),
                     DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                     N=[3], TP=[0.19]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD         ID=[10], NHYD=["Ext-8"], DT=[1]min, AREA=[13.1](ha),
                     DWF=[0](cms),  CN/C=[75.2], IA=[8.74](mm),
                     N=[3], TP=[0.40]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS SUBWATERSHED FLOW---------------|
*#-----------------|-------------------------------------------------------------|
ADD HYD              IDsum=[4], NHYD=["NE_DITCH"], IDs to add=[7,3,9,10]
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD         ID=[6], NHYD=["Ext-9"], DT=[1]min, AREA=[7.0](ha),
                     DWF=[0](cms),  CN/C=[76.8], IA=[8.06](mm),
                     N=[3], TP=[0.34]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS Subwatershed 21A Outflow--------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
ADD HYD              IDsum=[5], NHYD=["21A"], IDs to add=[4,6]
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD         ID=[4], NHYD=["Ext-10A"], DT=[1]min, AREA=[27.9](ha),
                     DWF=[0](cms),  CN/C=[56.0], IA=[8.70](mm),
                     N=[3], TP=[0.20]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD         ID=[3], NHYD=["Ext-11"], DT=[1]min, AREA=[3.9](ha),
                     DWF=[0](cms),  CN/C=[72.9], IA=[7.96](mm),
                     N=[3], TP=[0.08]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD         ID=[6], NHYD=["Ext-12"], DT=[1]min, AREA=[5.2](ha),
                     DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                     N=[3], TP=[0.18]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO EX. STORAGE AREA------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
ADD HYD              IDsum=[5], NHYD=["WET-STO"], IDs to add=[1,2,4,3,6]
*#-----------------|-------------------------------------------------------------|
ROUTE RESERVOIR      IDout=[4],   NHYD=["22"],  IDin=[5],
                     RDT=[1](min),
                           TABLE of ( OUTFLOW-STORAGE ) values
                                       (cms) - (ha-m)
                                     [   0.0 ,  0.0 ]
                                     [   0.0102 ,  0.002 ]
                                     [   0.04230 ,  0.004 ]
                                     [   0.0939 ,  0.006 ]
                                     [   0.1286 ,  0.008 ]
                                     [   0.16330 ,  0.045 ]
                                     [   0.2489 ,  0.262 ]
                                     [   0.3488 ,  0.622 ]
                                     [   0.4601 ,  1.088 ]
                                     [   0.51955 ,  1.623 ]
                                     [   0.579 ,  1.925 ]
                                     [   0.7014 ,  2.253 ]
                                     [   0.8216 ,  2.951 ]
                                     [   0.9345 ,  3.689 ]
                                     [   -1  ,  -1  ]  (max twenty pts)
                           IDovf=[6], NHYDovf=["OVF"]
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD         ID=[3], NHYD=["Ext-10B"], DT=[1]min, AREA=[4.9](ha),
                     DWF=[0](cms),  CN/C=[54.6], IA=[6.15](mm),
                     N=[3], TP=[0.17]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS SUBWATERSHED 22 OUTFLOW --------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
ADD HYD              IDsum=[5], NHYD=["22"], IDs to add=[3,4,6]
*%-----------------|-------------------------------------------------------------|



*#-----------------|-------------------------------------------------------------|
*#-----------------|----------100YR SCS 12 HR---------------------------------|
*#-----------------|-------------------------------------------------------------|

MASS STORM           PTOTAL=[98.4](mm), CSDT=[1](min),
                     CURVE_FILENAME=["SCS12HII.mst"]

*%-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
```

```
*#-----------------|-----------------POST-DEVELOPMENT-------------------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|---------------------OUTLET A-----------------------------|
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD         ID=[2], NHYD=["EXT-1"], DT=[1]min, AREA=[3.5](ha),
                     DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                     N=[3], TP=[0.13]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD         ID=[3], NHYD=["INT-3"], DT=[1]min, AREA=[0.2](ha),
                     DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                     N=[3], TP=[0.05]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD         ID=[4], NHYD=["UNC-1"], DT=[1]min, AREA=[0.8](ha),
                     DWF=[0](cms),  CN/C=[82], IA=[4.52](mm),
                     N=[3], TP=[0.28]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 825mm CULVERT     |
*#-----------------|-------------------------------------------------------------|
ADD HYD              IDsum=[1], NHYD=["825mm"], IDs to add=[2,3,4]
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|-----------OUTLET B---------------------------------------|
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD         ID=[5], NHYD=["EXT-2"], DT=[1]min, AREA=[4.1](ha),
                     DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                     N=[3], TP=[0.12]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD         ID=[8], NHYD=["EXT-3"], DT=[1]min, AREA=[2.2](ha),
                     DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                     N=[3], TP=[0.13]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
CALIB STANDHYD       ID=[6], NHYD=["INT-2"], DT=[1](min), AREA=[3](ha),
                     XIMP=[0.15], TIMP=[0.31], DWF=[0](cms), LOSS=[2],
                     SCS curve number CN=[79],
                     Pervious   surfaces: IAper=[5](mm), SLPP=[2](%),
                                         LGP=[65](m), MNP=[0.25], SCP=[0](min),
                     Impervious surfaces: IAimp=[2](mm), SLPI=[0.5](%),
                                         LGI=[141](m), MNI=[0.013], SCI=[0](min),
                     RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD         ID=[7], NHYD=["INT-4"], DT=[1]min, AREA=[0.6](ha),
                     DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                     N=[3], TP=[0.05]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
CALIB STANDHYD       ID=[9], NHYD=["INT-1"], DT=[1](min), AREA=[8.60](ha),
                     XIMP=[0.168], TIMP=[0.431], DWF=[0](cms), LOSS=[2],
                     SCS curve number CN=[79],
                     Pervious   surfaces: IAper=[5](mm), SLPP=[2](%),
                                         LGP=[65](m), MNP=[0.25], SCP=[0](min),
                     Impervious surfaces: IAimp=[2](mm), SLPI=[0.5](%),
                                         LGI=[239](m), MNI=[0.013], SCI=[0](min),
                     RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE SWMF--------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
ADD HYD              IDsum=[4], NHYD=["POOL1INT"], IDs to add=[5,8,6,7,9]
*#-----------------|-------------------------------------------------------------|
CALIB STANDHYD       ID=[2], NHYD=["SWMF"], DT=[1](min), AREA=[0.80](ha),
                     XIMP=[0.5], TIMP=[0.5], DWF=[0](cms), LOSS=[2],
                     SCS curve number CN=[79],
                     Pervious   surfaces: IAper=[5](mm), SLPP=[2](%),
                                         LGP=[20](m), MNP=[0.25], SCP=[0](min),
                     Impervious surfaces: IAimp=[2](mm), SLPI=[2](%),
                                         LGI=[68](m), MNI=[0.013], SCI=[0](min),
                     RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|-------------------------------------------------------------|
ADD HYD              IDsum=[3], NHYD=["POOL1"], IDs to add=[4,2]
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
ROUTE RESERVOIR      IDout=[6],   NHYD=["POOL"],  IDin=[3],
                     RDT=[1](min),
                           TABLE of ( OUTFLOW-STORAGE ) values
                                       (cms) - (ha-m)
                                     [ 0.0 ,    0.0]
                                     [ 0.012,  0.126]
                                     [ 0.024,  0.189]
                                     [ 0.042,  0.251]
                                     [ 0.117,  0.440]
                                     [ 0.215,  0.564]
                                     [ 0.292,  0.652]
                                     [ 0.376,  0.743]
                                     [ 0.514,  0.887]
                                     [ 0.949,  1.317]
                                     [ 1.009,  1.339]
                                     [ 1.105,  1.360]
                                     [   -1  ,  -1  ]  (max twenty pts)
                           IDovf=[7], NHYDovf=["OVF1"]
*#-----------------|-------------------------------------------------------------|
CALIB STANDHYD       ID=[10], NHYD=["UNC-2"], DT=[1](min), AREA=[1.5](ha),
                     XIMP=[0.075], TIMP=[0.221], DWF=[0](cms), LOSS=[2],
                     SCS curve number CN=[79],
                     Pervious   surfaces: IAper=[5](mm), SLPP=[2](%),
                                         LGP=[65](m), MNP=[0.25], SCP=[0](min),
                     Impervious surfaces: IAimp=[2](mm), SLPI=[0.5](%),
                                         LGI=[100](m), MNI=[0.013], SCI=[0](min),
                     RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD         ID=[4], NHYD=["UNC-3"], DT=[1]min, AREA=[2.0](ha),
                     DWF=[0](cms),  CN/C=[75.3], IA=[8.57](mm),
                     N=[3], TP=[0.05]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 900mm CULVERT-----|
*#-----------------|-------------------------------------------------------------|
ADD HYD              IDsum=[2], NHYD=["900mm"], IDs to add=[4,6,7,10]
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|-----------OUTLET C---------------------------------------|
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD         ID=[4], NHYD=["EXT-4"], DT=[1]min, AREA=[2.6](ha),
                     DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                     N=[3], TP=[0.13]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD         ID=[5], NHYD=["EXT-5"], DT=[1]min, AREA=[5.2](ha),
                     DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                     N=[3], TP=[0.11]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD         ID=[8], NHYD=["INT-5"], DT=[1]min, AREA=[0.1](ha),
                     DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                     N=[3], TP=[0.05]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------THE ADD HYD MODELS FLOW TO WC21A--------------------|
*#-----------------|-------------------------------------------------------------|
ADD HYD              IDsum=[6], NHYD=["EXT4_5"], IDs to add=[4,5,8]
*#-----------------|-------------------------------------------------------------|
ROUTE CHANNEL        IDout=[5], NHYD=["WC21A"], IDin=[6],
                     RDT=[1](min),
                     CHLGTH=[730](m),  CHSLOPE=[5.5](%),
                                        FPSLOPE=[5.5](%),
                     SECNUM=[1.1],       NSEG=[3]
                     ( SEGROUGH, SEGDIST (m))=[0.07,4.8 -0.07,19.0 0.07,41] NSEG times
                     ( DISTANCE (m), ELEVATION (m))=[0,220]
                                                   [4.8,217.5]
                                                   [19.0,215]
                                                   [34,217.5]
                                                   [41,220]
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD         ID=[4], NHYD=["UNC-4"], DT=[1]min, AREA=[3.1](ha),
                     DWF=[0](cms),  CN/C=[37.0], IA=[8.97](mm),
                     N=[3], TP=[0.30]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------THE ADD HYD MODELS FLOW TO WC21A AT SITE------------|
*#-----------------|-------------------------------------------------------------|
ADD HYD              IDsum=[3], NHYD=["EXT_UNC"], IDs to add=[5,4]
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD         ID=[7], NHYD=["Ext-6"], DT=[1]min, AREA=[6.0](ha),
                     DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                     N=[3], TP=[0.39]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD         ID=[9], NHYD=["Ext-7"], DT=[1]min, AREA=[6.0](ha),
                     DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                     N=[3], TP=[0.19]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD         ID=[10], NHYD=["Ext-8"], DT=[1]min, AREA=[13.1](ha),
                     DWF=[0](cms),  CN/C=[75.2], IA=[8.74](mm),
                     N=[3], TP=[0.40]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS SUBWATERSHED FLOW---------------|
*#-----------------|-------------------------------------------------------------|
ADD HYD              IDsum=[4], NHYD=["NE_DITCH"], IDs to add=[7,3,9,10]
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD         ID=[6], NHYD=["Ext-9"], DT=[1]min, AREA=[7.0](ha),
                     DWF=[0](cms),  CN/C=[76.8], IA=[8.06](mm),
                     N=[3], TP=[0.34]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
```

```
*#-----------------|  THE ADD HYD BELOW MODELS Subwatershed 21A Outflow--------|
*#-----------------|-----------------------------------------------------------|
*#-----------------|-----------------------------------------------------------|
ADD HYD             IDsum=[5], NHYD=["21A"], IDs to add=[4,6]
*#-----------------|-----------------------------------------------------------|
CALIB NASHYD        ID=[4], NHYD=["Ext-10A"], DT=[1]min, AREA=[27.9](ha),
                    DWF=[0](cms),  CN/C=[56.0], IA=[8.70](mm),
                    N=[3], TP=[0.20]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-----------------------------------------------------------|
CALIB NASHYD        ID=[3], NHYD=["Ext-11"], DT=[1]min, AREA=[3.9](ha),
                    DWF=[0](cms),  CN/C=[72.9], IA=[7.96](mm),
                    N=[3], TP=[0.08]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-----------------------------------------------------------|
CALIB NASHYD        ID=[6], NHYD=["Ext-12"], DT=[1]min, AREA=[5.2](ha),
                    DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                    N=[3], TP=[0.18]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-----------------------------------------------------------|
*#-----------------|-----------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO EX. STORAGE AREA------|
*#-----------------|-----------------------------------------------------------|
*#-----------------|-----------------------------------------------------------|
ADD HYD             IDsum=[5], NHYD=["WET-STO"], IDs to add=[1,2,4,3,6]
*#-----------------|-----------------------------------------------------------|
ROUTE RESERVOIR     IDout=[4],   NHYD=["22"],  IDin=[5],
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                      (cms) - (ha-m)
                                    [   0.0 ,  0.0 ]
                                    [   0.0102 ,  0.002 ]
                                    [   0.04230 ,  0.004 ]
                                    [   0.0939 ,  0.006 ]
                                    [   0.1286 ,  0.008 ]
                                    [   0.16330 ,  0.045 ]
                                    [   0.2489 ,  0.262 ]
                                    [   0.3488 ,  0.622 ]
                                    [   0.4601 ,  1.088 ]
                                    [   0.51955 ,  1.623 ]
                                    [   0.579 ,  1.925 ]
                                    [   0.7014 ,  2.253 ]
                                    [   0.8216 ,  2.951 ]
                                    [   0.9345 ,  3.689 ]
                                    [   -1  ,  -1  ]  (max twenty pts)
                          IDovf=[6], NHYDovf=["OVF"]
*#-----------------|-----------------------------------------------------------|
CALIB NASHYD        ID=[3], NHYD=["Ext-10B"], DT=[1]min, AREA=[4.9](ha),
                    DWF=[0](cms),  CN/C=[54.6], IA=[6.15](mm),
                    N=[3], TP=[0.17]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-----------------------------------------------------------|
*#-----------------|-----------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS SUBWATERSHED 22 OUTFLOW --------|
*#-----------------|-----------------------------------------------------------|
*#-----------------|-----------------------------------------------------------|
ADD HYD             IDsum=[5], NHYD=["22"], IDs to add=[3,4,6]
*%-----------------|-----------------------------------------------------------|








FINISH
```

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

SSSSS  W   W  M   M  H   H  Y   Y  M   M   OOO        222    000   11   77777 =========
S      W W W  MM MM  H   H   Y Y   MM MM  O   O         2   0   0   11   7   7
SSSSS  W W W  M M M  HHHHH    Y    M M M  O   O         2   0   0   11      7 Ver4.05.0
    S   W W   M   M  H   H    Y    M   M  O   O       222   0   0   11      7  APR 2017
SSSSS   W W   M   M  H   H    Y    M   M   OOO       2      0   0   11     7  =========
                                                     2      0   0   11     7  # 3737016
     StormWater Management HYdrologic Model          222    000   11     7  =========

******************************************************************************************
************************************  SWMHYMO Ver4.05.0  *********************************
*****************  A single event and continuous hydrologic simulation model  ************
*****************       based on the principles of HYMO and its successors      **********
*****************                OTTHYMO-83 and OTTHYMO-89.                     **********
******************************************************************************************
***************** Distributed by:  J.F. Sabourin and Associates Inc.            **********
*****************                  Ottawa, Ontario: (613) 836-3884               *********
*****************                  Gatineau, Quebec: (819) 243-6858              *********
*****************                  E-Mail: swmhymo@jfsa.com                      *********
******************************************************************************************

++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
+++++++++++++++++ Licensed user: C.F. Crozier & Associates Inc.           ++++++++++++++++
+++++++++++++++++                Collingwood            SERIAL#:3737016    ++++++++++++++++
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++

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


*******************************   S U M M A R Y   O U T P U T   *************************
******************************************************************************************
*                RUN DATE: 2022-02-10     TIME: 16:06:47     RUN COUNTER: 000006          *
******************************************************************************************
* Input   file: J:\100\119 - Tabera Ltd\2528\Design\SWM\Fourth Submission\SWMHYMO Model\2022.01.1*
*               9 - regional control\Craigleith_SCS12\POST_Craigleith_SCS12 - regional control fi*
* Output  file: J:\100\119 - Tabera Ltd\2528\Design\SWM\Fourth Submission\SWMHYMO Model\2022.01.1*
*               9 - regional control\Craigleith_SCS12\POST_Craigleith_SCS12 - regional control fi*
* Summary file: J:\100\119 - Tabera Ltd\2528\Design\SWM\Fourth Submission\SWMHYMO Model\2022.01.1*
*               9 - regional control\Craigleith_SCS12\POST_Craigleith_SCS12 - regional control fi*
* User comments:
* 1:_____________________________________________________________________________________*
* 2:_____________________________________________________________________________________*
* 3:_____________________________________________________________________________________*
******************************************************************************************


#*****************************************************************************
# Project Name: [ALTA PHASE-II]    Project Number: [119-2528]
# Date        : 2021.06.30
# Modified    : 2021.06.30
# Modeller    : [Z. Holland]
# Company     : C.F. Crozier & Associates Inc.
# License #   : 3737016
#*****************************************************************************
 RUN#:COMMAND#
R0001:C00001------------------------------------------------------------------------------
     START
       [TZERO =    .00 hrs on       0]
       [METOUT=   2   (1=imperial, 2=metric output)]
       [NSTORM=   0 ]
       [NRUN  = 0001 ]
#-----------------|------------------------------------------------------------|
#-----------------|------------------------------------------------------------|
#-----------------|----------2YR SCS 12 HR------------------------------------|
#-----------------|------------------------------------------------------------|
R0001:C00002------------------------------------------------------------------------------
     MASS STORM
       Filename = J:\100\119 - Tabera Ltd\2528\Design\SWM\Fourth Submission\SWMHYMO M
       Comment  = 12 hour SCS II storm mass curve
       [SDT= 1.00:SDUR=  12.00:PTOT=  39.60]
#-----------------|------------------------------------------------------------|
#-----------------|-----------------POST-DEVELOPMENT---------------------------|
#-----------------|------------------------------------------------------------|
#-----------------|--------------------OUTLET A-------------------------------|
#-----------------|------------------------------------------------------------|
R0001:C00003------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 02:EXT-1          3.50      .087 No_date    6:03    7.09 .179      .000
      [CN= 73.0: N= 3.00: Tp=  .13]
#-----------------|------------------------------------------------------------|
R0001:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 03:INT-3           .20      .007 No_date    6:00    7.09 .179      .000
      [CN= 73.0: N= 3.00: Tp=  .05]
#-----------------|------------------------------------------------------------|
R0001:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 04:UNC-1           .80      .025 No_date    6:11   13.55 .342      .000
      [CN= 82.0: N= 3.00: Tp=  .28]
#-----------------|------------------------------------------------------------|
#-----------------|------------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 825mm CULVERT      |
#-----------------|------------------------------------------------------------|
R0001:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:EXT-1          3.50      .087 No_date    6:03    7.09  n/a      .000
                    +     1.0 03:INT-3           .20      .007 No_date    6:00    7.09  n/a      .000
                    +     1.0 04:UNC-1           .80      .025 No_date    6:11   13.55  n/a      .000
                 SUM=     1.0 01:825mm          4.50      .113 No_date    6:03    8.24  n/a      .000
#-----------------|------------------------------------------------------------|
#-----------------|------------------------------------------------------------|
#-----------------|----------OUTLET B------------------------------------------|
#-----------------|------------------------------------------------------------|
R0001:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 05:EXT-2          4.10      .107 No_date    6:03    7.09 .179      .000
      [CN= 73.0: N= 3.00: Tp=  .12]
#-----------------|------------------------------------------------------------|
R0001:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 08:EXT-3          2.20      .055 No_date    6:03    7.09 .179      .000
      [CN= 73.0: N= 3.00: Tp=  .13]
#-----------------|------------------------------------------------------------|
R0001:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB STANDHYD        1.0 06:INT-2          3.00      .100 No_date    6:02   17.52 .443      .000
      [XIMP=.15:TIMP=.31]
      [LOSS= 2 :CN= 79.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  65.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI= .50:LGI= 141.:MNI=.013:SCI=   .0]
#-----------------|------------------------------------------------------------|
R0001:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 07:INT-4           .60      .021 No_date    6:00    7.09 .179      .000
      [CN= 73.0: N= 3.00: Tp=  .05]
#-----------------|------------------------------------------------------------|
R0001:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB STANDHYD        1.0 09:INT-1          8.60      .267 No_date    6:04   17.73 .448      .000
      [XIMP=.15:TIMP=.32]
      [LOSS= 2 :CN= 79.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  65.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI= .50:LGI= 252.:MNI=.013:SCI=   .0]
#-----------------|------------------------------------------------------------|
#-----------------|------------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE SWMF--------------|
#-----------------|------------------------------------------------------------|
#-----------------|------------------------------------------------------------|
R0001:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 05:EXT-2          4.10      .107 No_date    6:03    7.09  n/a      .000
                    +     1.0 08:EXT-3          2.20      .055 No_date    6:03    7.09  n/a      .000
                    +     1.0 06:INT-2          3.00      .100 No_date    6:02   17.52  n/a      .000
                    +     1.0 07:INT-4           .60      .021 No_date    6:00    7.09  n/a      .000
                    +     1.0 09:INT-1          8.60      .267 No_date    6:04   17.73  n/a      .000
                 SUM=     1.0 04:POOL1INT      18.50      .543 No_date    6:03   13.73  n/a      .000
#-----------------|------------------------------------------------------------|
R0001:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB STANDHYD        1.0 02:SWMF            .80      .070 No_date    6:00   24.66 .623      .000
      [XIMP=.50:TIMP=.50]
      [LOSS= 2 :CN= 79.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  20.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI=2.00:LGI=  68.:MNI=.013:SCI=   .0]
#-----------------|------------------------------------------------------------|
R0001:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 04:POOL1INT      18.50      .543 No_date    6:03   13.73  n/a      .000
                    +     1.0 02:SWMF            .80      .070 No_date    6:00   24.66  n/a      .000
                 SUM=     1.0 03:POOL1         19.30      .595 No_date    6:01   14.18  n/a      .000
#-----------------|------------------------------------------------------------|
#-----------------|------------------------------------------------------------|
R0001:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 03:POOL1         19.30      .595 No_date    6:01   14.18  n/a      .000
                 out <=   1.0 06:POOL          19.30      .031 No_date   10:27   14.18  n/a      .000
            overflow <=   1.0 07:OVF1            .00      .000 No_date    0:00     .00  n/a      .000
     {MxStoUsed=.2141E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
#-----------------|------------------------------------------------------------|
R0001:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB STANDHYD        1.0 10:UNC-2          1.50      .040 No_date    6:17   15.38 .388      .000
      [XIMP=.08:TIMP=.22]
      [LOSS= 2 :CN= 79.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  65.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI= .50:LGI= 100.:MNI=.013:SCI=   .0]
#-----------------|------------------------------------------------------------|
R0001:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 04:UNC-3          2.00      .084 No_date    6:00    8.42 .213      .000
      [CN= 75.3: N= 3.00: Tp=  .05]
#-----------------|------------------------------------------------------------|
#-----------------|------------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 900mm CULVERT-----|
#-----------------|------------------------------------------------------------|
R0001:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 04:UNC-3          2.00      .084 No_date    6:00    8.42  n/a      .000
                    +     1.0 06:POOL          19.30      .031 No_date   10:27   14.18  n/a      .000
                    +     1.0 07:OVF1            .00      .000 No_date    0:00     .00  n/a      .000
                    +     1.0 10:UNC-2          1.50      .040 No_date    6:17   15.38  n/a      .000
                 SUM=     1.0 02:900mm         22.80      .124 No_date    6:00   13.75  n/a      .000
#-----------------|------------------------------------------------------------|
#-----------------|------------------------------------------------------------|
#-----------------|----------OUTLET C------------------------------------------|
#-----------------|------------------------------------------------------------|
R0001:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 04:EXT-4          2.60      .065 No_date    6:03    7.09 .179      .000
      [CN= 73.0: N= 3.00: Tp=  .13]
#-----------------|------------------------------------------------------------|
R0001:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 05:EXT-5          5.20      .142 No_date    6:02    7.09 .179      .000
      [CN= 73.0: N= 3.00: Tp=  .11]
#-----------------|------------------------------------------------------------|
R0001:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 08:INT-5           .10      .004 No_date    6:00    7.09 .179      .000
      [CN= 73.0: N= 3.00: Tp=  .05]
#-----------------|------------------------------------------------------------|
#-----------------|------------------------------------------------------------|
#-----------------|-------THE ADD HYD MODELS FLOW TO WC21A--------------------|
#-----------------|------------------------------------------------------------|
R0001:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 04:EXT-4          2.60      .065 No_date    6:03    7.09  n/a      .000
                    +     1.0 05:EXT-5          5.20      .142 No_date    6:02    7.09  n/a      .000
                    +     1.0 08:INT-5           .10      .004 No_date    6:00    7.09  n/a      .000
                 SUM=     1.0 06:EXT4_5         7.90      .209 No_date    6:03    7.09  n/a      .000
#-----------------|------------------------------------------------------------|
R0001:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 06:EXT4_5         7.90      .209 No_date    6:03    7.09  n/a      .000
     [RDT= 1.00] out<-    1.0 05:WC21A          7.90      .125 No_date    6:11    7.09  n/a      .000
      [L/S/n=  730./5.500/.070]
      {Vmax=  .858:Dmax=  .158}
#-----------------|------------------------------------------------------------|
R0001:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 04:UNC-4          3.10      .012 No_date    6:14    2.03 .051      .000
      [CN= 37.0: N= 3.00: Tp=  .30]
#-----------------|------------------------------------------------------------|
#-----------------|-------THE ADD HYD MODELS FLOW TO WC21A AT SITE------------|
#-----------------|------------------------------------------------------------|
R0001:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 05:WC21A          7.90      .125 No_date    6:11    7.09  n/a      .000
                    +     1.0 04:UNC-4          3.10      .012 No_date    6:14    2.03  n/a      .000
                 SUM=     1.0 03:EXT_UNC       11.00      .137 No_date    6:11    5.66  n/a      .000
#-----------------|------------------------------------------------------------|
#-----------------|------------------------------------------------------------|
R0001:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 07:Ext-6          6.00      .071 No_date    6:22    7.09 .179      .000
      [CN= 73.0: N= 3.00: Tp=  .39]
#-----------------|------------------------------------------------------------|
R0001:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 09:Ext-7          6.00      .118 No_date    6:07    7.09 .179      .000
      [CN= 73.0: N= 3.00: Tp=  .19]
#-----------------|------------------------------------------------------------|
R0001:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 10:Ext-8         13.10      .184 No_date    6:22    8.31 .210      .000
      [CN= 75.2: N= 3.00: Tp=  .40]
#-----------------|------------------------------------------------------------|
#-----------------|------------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS SUBWATERSHED FLOW---------------|
#-----------------|------------------------------------------------------------|
R0001:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 07:Ext-6          6.00      .071 No_date    6:22    7.09  n/a      .000
                    +     1.0 03:EXT_UNC       11.00      .137 No_date    6:11    5.66  n/a      .000
                    +     1.0 09:Ext-7          6.00      .118 No_date    6:07    7.09  n/a      .000
                    +     1.0 10:Ext-8         13.10      .184 No_date    6:22    8.31  n/a      .000
                 SUM=     1.0 04:NE_DITCH      36.10      .470 No_date    6:13    7.10  n/a      .000
#-----------------|------------------------------------------------------------|
R0001:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 06:Ext-9          7.00      .124 No_date    6:16    9.19 .232      .000
      [CN= 76.8: N= 3.00: Tp=  .34]
#-----------------|------------------------------------------------------------|
#-----------------|------------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS Subwatershed 21A Outflow--------|
#-----------------|------------------------------------------------------------|
#-----------------|------------------------------------------------------------|
R0001:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 04:NE_DITCH      36.10      .470 No_date    6:13    7.10  n/a      .000
                    +     1.0 06:Ext-9          7.00      .124 No_date    6:16    9.19  n/a      .000
                 SUM=     1.0 05:21A           43.10      .593 No_date    6:14    7.44  n/a      .000
#-----------------|------------------------------------------------------------|
R0001:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 04:Ext-10A       27.90      .306 No_date    6:07    4.14 .105      .000
      [CN= 56.0: N= 3.00: Tp=  .20]
#-----------------|------------------------------------------------------------|
R0001:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 03:Ext-11         3.90      .137 No_date    6:01    7.94 .201      .000
      [CN= 72.9: N= 3.00: Tp=  .08]
#-----------------|------------------------------------------------------------|
R0001:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 06:Ext-12         5.20      .106 No_date    6:06    7.09 .179      .000
      [CN= 73.0: N= 3.00: Tp=  .18]
#-----------------|------------------------------------------------------------|
#-----------------|------------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO EX. STORAGE AREA------|
#-----------------|------------------------------------------------------------|
#-----------------|------------------------------------------------------------|
R0001:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 01:825mm          4.50      .113 No_date    6:03    8.24  n/a      .000
                    +     1.0 02:900mm         22.80      .124 No_date    6:00   13.75  n/a      .000
                    +     1.0 04:Ext-10A       27.90      .306 No_date    6:07    4.14  n/a      .000
                    +     1.0 03:Ext-11         3.90      .137 No_date    6:01    7.94  n/a      .000
                    +     1.0 06:Ext-12         5.20      .106 No_date    6:06    7.09  n/a      .000
                 SUM=     1.0 05:WET-STO       64.30      .714 No_date    6:03    8.31  n/a      .000
#-----------------|------------------------------------------------------------|
R0001:C00036------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 05:WET-STO       64.30      .714 No_date    6:03    8.31  n/a      .000
                 out <=   1.0 04:22            64.30      .181 No_date    6:47    8.31  n/a      .000
            overflow <=   1.0 06:OVF             .00      .000 No_date    0:00     .00  n/a      .000
     {MxStoUsed=.9026E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
#-----------------|------------------------------------------------------------|
R0001:C00037------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 03:Ext-10B        4.90      .068 No_date    6:05    4.57 .115      .000
      [CN= 54.6: N= 3.00: Tp=  .17]
#-----------------|------------------------------------------------------------|
#-----------------|------------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS SUBWATERSHED 22 OUTFLOW --------|
#-----------------|------------------------------------------------------------|
#-----------------|------------------------------------------------------------|
R0001:C00038------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 03:Ext-10B        4.90      .068 No_date    6:05    4.57  n/a      .000
                    +     1.0 04:22            64.30      .181 No_date    6:47    8.31  n/a      .000
                    +     1.0 06:OVF             .00      .000 No_date    0:00     .00  n/a      .000
                 SUM=     1.0 05:22            69.20      .230 No_date    6:07    8.04  n/a      .000
#-----------------|------------------------------------------------------------|
#-----------------|----------5YR SCS 12 HR------------------------------------|
#-----------------|------------------------------------------------------------|
R0001:C00039------------------------------------------------------------------------------
     MASS STORM
       Filename = J:\100\119 - Tabera Ltd\2528\Design\SWM\Fourth Submission\SWMHYMO M
       Comment  = 12 hour SCS II storm mass curve
       [SDT= 1.00:SDUR=  12.00:PTOT=  55.20]
#-----------------|------------------------------------------------------------|
#-----------------|-----------------POST-DEVELOPMENT---------------------------|
#-----------------|------------------------------------------------------------|
#-----------------|--------------------OUTLET A-------------------------------|
#-----------------|------------------------------------------------------------|
R0001:C00040------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 02:EXT-1          3.50      .189 No_date    6:03   14.68 .266      .000
      [CN= 73.0: N= 3.00: Tp=  .13]
#-----------------|------------------------------------------------------------|
R0001:C00041------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 03:INT-3           .20      .015 No_date    6:00   14.68 .266      .000
      [CN= 73.0: N= 3.00: Tp=  .05]
#-----------------|------------------------------------------------------------|
R0001:C00042------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 04:UNC-1           .80      .046 No_date    6:11   24.13 .437      .000
      [CN= 82.0: N= 3.00: Tp=  .28]
#-----------------|------------------------------------------------------------|
#-----------------|------------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 825mm CULVERT      |
#-----------------|------------------------------------------------------------|
R0001:C00043------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:EXT-1          3.50      .189 No_date    6:03   14.68  n/a      .000
                    +     1.0 03:INT-3           .20      .015 No_date    6:00   14.68  n/a      .000
                    +     1.0 04:UNC-1           .80      .046 No_date    6:11   24.13  n/a      .000
                 SUM=     1.0 01:825mm          4.50      .238 No_date    6:03   16.36  n/a      .000
#-----------------|------------------------------------------------------------|
#-----------------|------------------------------------------------------------|
#-----------------|----------OUTLET B------------------------------------------|
#-----------------|------------------------------------------------------------|
R0001:C00044------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 05:EXT-2          4.10      .230 No_date    6:03   14.68 .266      .000
      [CN= 73.0: N= 3.00: Tp=  .12]
#-----------------|------------------------------------------------------------|
R0001:C00045------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 08:EXT-3          2.20      .119 No_date    6:03   14.68 .266      .000
      [CN= 73.0: N= 3.00: Tp=  .13]
#-----------------|------------------------------------------------------------|
R0001:C00046------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB STANDHYD        1.0 06:INT-2          3.00      .190 No_date    6:02   28.96 .525      .000
      [XIMP=.15:TIMP=.31]
      [LOSS= 2 :CN= 79.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  65.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI= .50:LGI= 141.:MNI=.013:SCI=   .0]
#-----------------|------------------------------------------------------------|
R0001:C00047------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 07:INT-4           .60      .044 No_date    6:00   14.68 .266      .000
      [CN= 73.0: N= 3.00: Tp=  .05]
#-----------------|------------------------------------------------------------|
R0001:C00048------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB STANDHYD        1.0 09:INT-1          8.60      .519 No_date    6:04   29.24 .530      .000
      [XIMP=.15:TIMP=.32]
      [LOSS= 2 :CN= 79.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  65.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI= .50:LGI= 252.:MNI=.013:SCI=   .0]
#-----------------|------------------------------------------------------------|
#-----------------|------------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE SWMF--------------|
#-----------------|------------------------------------------------------------|
#-----------------|------------------------------------------------------------|
R0001:C00049------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 05:EXT-2          4.10      .230 No_date    6:03   14.68  n/a      .000
                    +     1.0 08:EXT-3          2.20      .119 No_date    6:03   14.68  n/a      .000
                    +     1.0 06:INT-2          3.00      .190 No_date    6:02   28.96  n/a      .000
```

```
                  +     1.0 07:INT-4          .60      .044 No_date    6:00   14.68  n/a      .000
                  +     1.0 09:INT-1         8.60      .519 No_date    6:04   29.24  n/a      .000
               SUM=     1.0 04:POOL1INT     18.50     1.083 No_date    6:03   23.77  n/a      .000
#-----------------|------------------------------------------------------------|
R0001:C00050------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB STANDHYD      1.0 02:SWMF           .80      .108 No_date    6:00   37.30 .676      .000
      [XIMP=.50:TIMP=.50]
      [LOSS= 2 :CN= 79.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  20.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI=2.00:LGI=  68.:MNI=.013:SCI=   .0]
#-----------------|------------------------------------------------------------|
R0001:C00051------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD             1.0 04:POOL1INT     18.50     1.083 No_date    6:03   23.77  n/a      .000
                  +     1.0 02:SWMF           .80      .108 No_date    6:00   37.30  n/a      .000
               SUM=     1.0 03:POOL1        19.30     1.160 No_date    6:01   24.33  n/a      .000
#-----------------|------------------------------------------------------------|
#-----------------|------------------------------------------------------------|
R0001:C00052------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 03:POOL1      19.30     1.160 No_date    6:01   24.33  n/a      .000
                 out <=   1.0 06:POOL       19.30      .076 No_date    8:38   24.33  n/a      .000
            overflow <=   1.0 07:OVF1         .00      .000 No_date    0:00     .00  n/a      .000
     {MxStoUsed=.3371E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
#-----------------|------------------------------------------------------------|
R0001:C00053------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB STANDHYD      1.0 10:UNC-2         1.50      .085 No_date    6:09   26.29 .476      .000
      [XIMP=.08:TIMP=.22]
      [LOSS= 2 :CN= 79.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  65.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI= .50:LGI= 100.:MNI=.013:SCI=   .0]
#-----------------|------------------------------------------------------------|
R0001:C00054------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD        1.0 04:UNC-3         2.00      .165 No_date    6:00   16.73 .303      .000
      [CN= 75.3: N= 3.00: Tp=  .05]
#-----------------|------------------------------------------------------------|
#-----------------|------------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 900mm CULVERT-----|
#-----------------|------------------------------------------------------------|
R0001:C00055------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD             1.0 04:UNC-3         2.00      .165 No_date    6:00   16.73  n/a      .000
                  +     1.0 06:POOL         19.30      .076 No_date    8:38   24.33  n/a      .000
                  +     1.0 07:OVF1           .00      .000 No_date    0:00     .00  n/a      .000
                  +     1.0 10:UNC-2         1.50      .085 No_date    6:09   26.29  n/a      .000
               SUM=     1.0 02:900mm        22.80      .252 No_date    6:00   23.79  n/a      .000
#-----------------|------------------------------------------------------------|
#-----------------|------------------------------------------------------------|
#-----------------|-----------OUTLET C-----------------------------------------|
#-----------------|------------------------------------------------------------|
R0001:C00056------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD        1.0 04:EXT-4         2.60      .141 No_date    6:03   14.68 .266      .000
      [CN= 73.0: N= 3.00: Tp=  .13]
#-----------------|------------------------------------------------------------|
R0001:C00057------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD        1.0 05:EXT-5         5.20      .304 No_date    6:02   14.68 .266      .000
      [CN= 73.0: N= 3.00: Tp=  .11]
#-----------------|------------------------------------------------------------|
R0001:C00058------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD        1.0 08:INT-5          .10      .007 No_date    6:00   14.68 .266      .000
      [CN= 73.0: N= 3.00: Tp=  .05]
#-----------------|------------------------------------------------------------|
#-----------------|------------------------------------------------------------|
#-----------------|-------THE ADD HYD MODELS FLOW TO WC21A---------------------|
#-----------------|------------------------------------------------------------|
R0001:C00059------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD             1.0 04:EXT-4         2.60      .141 No_date    6:03   14.68  n/a      .000
                  +     1.0 05:EXT-5         5.20      .304 No_date    6:02   14.68  n/a      .000
                  +     1.0 08:INT-5          .10      .007 No_date    6:00   14.68  n/a      .000
               SUM=     1.0 06:EXT4_5        7.90      .450 No_date    6:02   14.68  n/a      .000
#-----------------|------------------------------------------------------------|
R0001:C00060------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 06:EXT4_5      7.90      .450 No_date    6:02   14.68  n/a      .000
     [RDT= 1.00] out<-    1.0 05:WC21A       7.90      .277 No_date    6:10   14.68  n/a      .000
      [L/S/n=  730./5.500/.070]
      {Vmax=  .876:Dmax=  .278}
#-----------------|------------------------------------------------------------|
R0001:C00061------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD        1.0 04:UNC-4         3.10      .028 No_date    6:13    4.46 .081      .000
      [CN= 37.0: N= 3.00: Tp=  .30]
#-----------------|------------------------------------------------------------|
#-----------------|-------THE ADD HYD MODELS FLOW TO WC21A AT SITE-------------|
#-----------------|------------------------------------------------------------|
R0001:C00062------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD             1.0 05:WC21A         7.90      .277 No_date    6:10   14.68  n/a      .000
                  +     1.0 04:UNC-4         3.10      .028 No_date    6:13    4.46  n/a      .000
               SUM=     1.0 03:EXT_UNC      11.00      .305 No_date    6:10   11.80  n/a      .000
#-----------------|------------------------------------------------------------|
#-----------------|------------------------------------------------------------|
R0001:C00063------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD        1.0 07:Ext-6         6.00      .158 No_date    6:20   14.68 .266      .000
      [CN= 73.0: N= 3.00: Tp=  .39]
#-----------------|------------------------------------------------------------|
R0001:C00064------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD        1.0 09:Ext-7         6.00      .261 No_date    6:06   14.68 .266      .000
      [CN= 73.0: N= 3.00: Tp=  .19]
#-----------------|------------------------------------------------------------|
R0001:C00065------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD        1.0 10:Ext-8        13.10      .388 No_date    6:20   16.58 .300      .000
      [CN= 75.2: N= 3.00: Tp=  .40]
#-----------------|------------------------------------------------------------|
#-----------------|------------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS SUBWATERSHED FLOW---------------|
#-----------------|------------------------------------------------------------|
R0001:C00066------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD             1.0 07:Ext-6         6.00      .158 No_date    6:20   14.68  n/a      .000
                  +     1.0 03:EXT_UNC      11.00      .305 No_date    6:10   11.80  n/a      .000
                  +     1.0 09:Ext-7         6.00      .261 No_date    6:06   14.68  n/a      .000
                  +     1.0 10:Ext-8        13.10      .388 No_date    6:20   16.58  n/a      .000
               SUM=     1.0 04:NE_DITCH     36.10     1.033 No_date    6:12   14.49  n/a      .000
#-----------------|------------------------------------------------------------|
R0001:C00067------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD        1.0 06:Ext-9         7.00      .255 No_date    6:15   17.94 .325      .000
      [CN= 76.8: N= 3.00: Tp=  .34]
#-----------------|------------------------------------------------------------|
#-----------------|------------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS Subwatershed 21A Outflow---------|
#-----------------|------------------------------------------------------------|
#-----------------|------------------------------------------------------------|
R0001:C00068------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD             1.0 04:NE_DITCH     36.10     1.033 No_date    6:12   14.49  n/a      .000
                  +     1.0 06:Ext-9         7.00      .255 No_date    6:15   17.94  n/a      .000
               SUM=     1.0 05:21A          43.10     1.283 No_date    6:13   15.05  n/a      .000
#-----------------|------------------------------------------------------------|
R0001:C00069------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD        1.0 04:Ext-10A      27.90      .677 No_date    6:07    8.79 .159      .000
      [CN= 56.0: N= 3.00: Tp=  .20]
#-----------------|------------------------------------------------------------|
R0001:C00070------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD        1.0 03:Ext-11        3.90      .273 No_date    6:01   15.75 .285      .000
      [CN= 72.9: N= 3.00: Tp=  .08]
#-----------------|------------------------------------------------------------|
R0001:C00071------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD        1.0 06:Ext-12        5.20      .233 No_date    6:06   14.68 .266      .000
      [CN= 73.0: N= 3.00: Tp=  .18]
#-----------------|------------------------------------------------------------|
#-----------------|------------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO EX. STORAGE AREA-------|
#-----------------|------------------------------------------------------------|
#-----------------|------------------------------------------------------------|
R0001:C00072------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD             1.0 01:825mm         4.50      .238 No_date    6:03   16.36  n/a      .000
                  +     1.0 02:900mm        22.80      .252 No_date    6:00   23.79  n/a      .000
                  +     1.0 04:Ext-10A      27.90      .677 No_date    6:07    8.79  n/a      .000
                  +     1.0 03:Ext-11        3.90      .273 No_date    6:01   15.75  n/a      .000
                  +     1.0 06:Ext-12        5.20      .233 No_date    6:06   14.68  n/a      .000
               SUM=     1.0 05:WET-STO      64.30     1.543 No_date    6:03   15.54  n/a      .000
#-----------------|------------------------------------------------------------|
R0001:C00073------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 05:WET-STO    64.30     1.543 No_date    6:03   15.54  n/a      .000
                 out <=   1.0 04:22         64.30      .245 No_date    7:18   15.54  n/a      .000
            overflow <=   1.0 06:OVF          .00      .000 No_date    0:00     .00  n/a      .000
     {MxStoUsed=.2530E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
#-----------------|------------------------------------------------------------|
R0001:C00074------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD        1.0 03:Ext-10B       4.90      .139 No_date    6:05    9.24 .167      .000
      [CN= 54.6: N= 3.00: Tp=  .17]
#-----------------|------------------------------------------------------------|
#-----------------|------------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS SUBWATERSHED 22 OUTFLOW ---------|
#-----------------|------------------------------------------------------------|
#-----------------|------------------------------------------------------------|
R0001:C00075------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD             1.0 03:Ext-10B       4.90      .139 No_date    6:05    9.24  n/a      .000
                  +     1.0 04:22           64.30      .245 No_date    7:18   15.54  n/a      .000
                  +     1.0 06:OVF            .00      .000 No_date    0:00     .00  n/a      .000
               SUM=     1.0 05:22           69.20      .328 No_date    6:07   15.09  n/a      .000
#-----------------|------------------------------------------------------------|
#-----------------|----------10YR SCS 12 HR------------------------------------|
#-----------------|------------------------------------------------------------|
R0001:C00076-------------------------------------------------------------------------------------------
     MASS STORM
      Filename = J:\100\119 - Tabera Ltd\2528\Design\SWM\Fourth Submission\SWMHYMO M
      Comment  = 12 hour SCS II storm mass curve
      [SDT= 1.00:SDUR=  12.00:PTOT=  66.00]
#-----------------|------------------------------------------------------------|
#-----------------|----------------POST-DEVELOPMENT----------------------------|
#-----------------|------------------------------------------------------------|
#-----------------|--------------------OUTLET A--------------------------------|
#-----------------|------------------------------------------------------------|
R0001:C00077------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD        1.0 02:EXT-1         3.50      .272 No_date    6:03   20.91 .317      .000
      [CN= 73.0: N= 3.00: Tp=  .13]
#-----------------|------------------------------------------------------------|
R0001:C00078------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD        1.0 03:INT-3          .20      .021 No_date    6:00   20.91 .317      .000
      [CN= 73.0: N= 3.00: Tp=  .05]
#-----------------|------------------------------------------------------------|
R0001:C00079------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD        1.0 04:UNC-1          .80      .062 No_date    6:10   32.24 .488      .000
      [CN= 82.0: N= 3.00: Tp=  .28]
#-----------------|------------------------------------------------------------|
#-----------------|------------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 825mm CULVERT      |
#-----------------|------------------------------------------------------------|
R0001:C00080------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD             1.0 02:EXT-1         3.50      .272 No_date    6:03   20.91  n/a      .000
                  +     1.0 03:INT-3          .20      .021 No_date    6:00   20.91  n/a      .000
                  +     1.0 04:UNC-1          .80      .062 No_date    6:10   32.24  n/a      .000
               SUM=     1.0 01:825mm         4.50      .339 No_date    6:03   22.93  n/a      .000
#-----------------|------------------------------------------------------------|
#-----------------|------------------------------------------------------------|
#-----------------|-----------OUTLET B-----------------------------------------|
#-----------------|------------------------------------------------------------|
R0001:C00081------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD        1.0 05:EXT-2         4.10      .331 No_date    6:02   20.91 .317      .000
      [CN= 73.0: N= 3.00: Tp=  .12]
#-----------------|------------------------------------------------------------|
R0001:C00082------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD        1.0 08:EXT-3         2.20      .171 No_date    6:03   20.91 .317      .000
      [CN= 73.0: N= 3.00: Tp=  .13]
#-----------------|------------------------------------------------------------|
R0001:C00083------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB STANDHYD      1.0 06:INT-2         3.00      .270 No_date    6:02   37.53 .569      .000
      [XIMP=.15:TIMP=.31]
      [LOSS= 2 :CN= 79.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  65.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI= .50:LGI= 141.:MNI=.013:SCI=   .0]
#-----------------|------------------------------------------------------------|
R0001:C00084------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD        1.0 07:INT-4          .60      .062 No_date    6:00   20.91 .317      .000
      [CN= 73.0: N= 3.00: Tp=  .05]
#-----------------|------------------------------------------------------------|
R0001:C00085------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB STANDHYD      1.0 09:INT-1         8.60      .736 No_date    6:04   37.86 .574      .000
      [XIMP=.15:TIMP=.32]
      [LOSS= 2 :CN= 79.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  65.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI= .50:LGI= 252.:MNI=.013:SCI=   .0]
#-----------------|------------------------------------------------------------|
#-----------------|------------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE SWMF---------------|
#-----------------|------------------------------------------------------------|
#-----------------|------------------------------------------------------------|
R0001:C00086------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD             1.0 05:EXT-2         4.10      .331 No_date    6:02   20.91  n/a      .000
                  +     1.0 08:EXT-3         2.20      .171 No_date    6:03   20.91  n/a      .000
                  +     1.0 06:INT-2         3.00      .270 No_date    6:02   37.53  n/a      .000
                  +     1.0 07:INT-4          .60      .062 No_date    6:00   20.91  n/a      .000
                  +     1.0 09:INT-1         8.60      .736 No_date    6:04   37.86  n/a      .000
               SUM=     1.0 04:POOL1INT     18.50     1.542 No_date    6:03   31.49  n/a      .000
#-----------------|------------------------------------------------------------|
R0001:C00087------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB STANDHYD      1.0 02:SWMF           .80      .136 No_date    6:00   46.48 .704      .000
      [XIMP=.50:TIMP=.50]
      [LOSS= 2 :CN= 79.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  20.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI=2.00:LGI=  68.:MNI=.013:SCI=   .0]
#-----------------|------------------------------------------------------------|
R0001:C00088------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD             1.0 04:POOL1INT     18.50     1.542 No_date    6:03   31.49  n/a      .000
                  +     1.0 02:SWMF           .80      .136 No_date    6:00   46.48  n/a      .000
               SUM=     1.0 03:POOL1        19.30     1.632 No_date    6:01   32.11  n/a      .000
#-----------------|------------------------------------------------------------|
#-----------------|------------------------------------------------------------|
R0001:C00089------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 03:POOL1      19.30     1.632 No_date    6:01   32.11  n/a      .000
                 out <=   1.0 06:POOL       19.30      .115 No_date    8:17   32.11  n/a      .000
            overflow <=   1.0 07:OVF1         .00      .000 No_date    0:00     .00  n/a      .000
     {MxStoUsed=.4340E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
#-----------------|------------------------------------------------------------|
R0001:C00090------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB STANDHYD      1.0 10:UNC-2         1.50      .123 No_date    6:07   34.56 .524      .000
      [XIMP=.08:TIMP=.22]
      [LOSS= 2 :CN= 79.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  65.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI= .50:LGI= 100.:MNI=.013:SCI=   .0]
#-----------------|------------------------------------------------------------|
R0001:C00091------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD        1.0 04:UNC-3         2.00      .230 No_date    6:00   23.43 .355      .000
      [CN= 75.3: N= 3.00: Tp=  .05]
#-----------------|------------------------------------------------------------|
#-----------------|------------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 900mm CULVERT-----|
#-----------------|------------------------------------------------------------|
R0001:C00092------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD             1.0 04:UNC-3         2.00      .230 No_date    6:00   23.43  n/a      .000
                  +     1.0 06:POOL         19.30      .115 No_date    8:17   32.11  n/a      .000
                  +     1.0 07:OVF1           .00      .000 No_date    0:00     .00  n/a      .000
                  +     1.0 10:UNC-2         1.50      .123 No_date    6:07   34.56  n/a      .000
               SUM=     1.0 02:900mm        22.80      .361 No_date    6:00   31.51  n/a      .000
#-----------------|------------------------------------------------------------|
#-----------------|------------------------------------------------------------|
#-----------------|-----------OUTLET C-----------------------------------------|
#-----------------|------------------------------------------------------------|
R0001:C00093------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD        1.0 04:EXT-4         2.60      .202 No_date    6:03   20.91 .317      .000
      [CN= 73.0: N= 3.00: Tp=  .13]
#-----------------|------------------------------------------------------------|
R0001:C00094------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD        1.0 05:EXT-5         5.20      .437 No_date    6:02   20.91 .317      .000
      [CN= 73.0: N= 3.00: Tp=  .11]
#-----------------|------------------------------------------------------------|
R0001:C00095------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD        1.0 08:INT-5          .10      .010 No_date    6:00   20.91 .317      .000
      [CN= 73.0: N= 3.00: Tp=  .05]
#-----------------|------------------------------------------------------------|
#-----------------|------------------------------------------------------------|
#-----------------|-------THE ADD HYD MODELS FLOW TO WC21A---------------------|
#-----------------|------------------------------------------------------------|
R0001:C00096------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD             1.0 04:EXT-4         2.60      .202 No_date    6:03   20.91  n/a      .000
                  +     1.0 05:EXT-5         5.20      .437 No_date    6:02   20.91  n/a      .000
                  +     1.0 08:INT-5          .10      .010 No_date    6:00   20.91  n/a      .000
               SUM=     1.0 06:EXT4_5        7.90      .647 No_date    6:02   20.91  n/a      .000
#-----------------|------------------------------------------------------------|
R0001:C00097------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 06:EXT4_5      7.90      .647 No_date    6:02   20.91  n/a      .000
     [RDT= 1.00] out<-    1.0 05:WC21A       7.90      .405 No_date    6:09   20.91  n/a      .000
      [L/S/n=  730./5.500/.070]
      {Vmax=  .913:Dmax=  .306}
#-----------------|------------------------------------------------------------|
R0001:C00098------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD        1.0 04:UNC-4         3.10      .042 No_date    6:13    6.64 .101      .000
      [CN= 37.0: N= 3.00: Tp=  .30]
#-----------------|------------------------------------------------------------|
#-----------------|-------THE ADD HYD MODELS FLOW TO WC21A AT SITE-------------|
#-----------------|------------------------------------------------------------|
R0001:C00099------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD             1.0 05:WC21A         7.90      .405 No_date    6:09   20.91  n/a      .000
                  +     1.0 04:UNC-4         3.10      .042 No_date    6:13    6.64  n/a      .000
               SUM=     1.0 03:EXT_UNC      11.00      .446 No_date    6:09   16.89  n/a      .000
#-----------------|------------------------------------------------------------|
#-----------------|------------------------------------------------------------|
R0001:C00100------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD        1.0 07:Ext-6         6.00      .230 No_date    6:19   20.91 .317      .000
      [CN= 73.0: N= 3.00: Tp=  .39]
#-----------------|------------------------------------------------------------|
R0001:C00101------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD        1.0 09:Ext-7         6.00      .378 No_date    6:06   20.91 .317      .000
      [CN= 73.0: N= 3.00: Tp=  .19]
#-----------------|------------------------------------------------------------|
R0001:C00102------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD        1.0 10:Ext-8        13.10      .555 No_date    6:19   23.25 .352      .000
      [CN= 75.2: N= 3.00: Tp=  .40]
#-----------------|------------------------------------------------------------|
#-----------------|------------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS SUBWATERSHED FLOW---------------|
#-----------------|------------------------------------------------------------|
R0001:C00103------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD             1.0 07:Ext-6         6.00      .230 No_date    6:19   20.91  n/a      .000
                  +     1.0 03:EXT_UNC      11.00      .446 No_date    6:09   16.89  n/a      .000
                  +     1.0 09:Ext-7         6.00      .378 No_date    6:06   20.91  n/a      .000
                  +     1.0 10:Ext-8        13.10      .555 No_date    6:19   23.25  n/a      .000
               SUM=     1.0 04:NE_DITCH     36.10     1.498 No_date    6:11   20.54  n/a      .000
#-----------------|------------------------------------------------------------|
R0001:C00104------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD        1.0 06:Ext-9         7.00      .360 No_date    6:15   24.93 .378      .000
      [CN= 76.8: N= 3.00: Tp=  .34]
#-----------------|------------------------------------------------------------|
#-----------------|------------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS Subwatershed 21A Outflow---------|
#-----------------|------------------------------------------------------------|
#-----------------|------------------------------------------------------------|
R0001:C00105------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD             1.0 04:NE_DITCH     36.10     1.498 No_date    6:11   20.54  n/a      .000
                  +     1.0 06:Ext-9         7.00      .360 No_date    6:15   24.93  n/a      .000
               SUM=     1.0 05:21A          43.10     1.851 No_date    6:12   21.25  n/a      .000
#-----------------|------------------------------------------------------------|
R0001:C00106------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD        1.0 04:Ext-10A      27.90      .998 No_date    6:07   12.78 .194      .000
      [CN= 56.0: N= 3.00: Tp=  .20]
#-----------------|------------------------------------------------------------|
R0001:C00107------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD        1.0 03:Ext-11        3.90      .382 No_date    6:01   22.10 .335      .000
      [CN= 72.9: N= 3.00: Tp=  .08]
#-----------------|------------------------------------------------------------|
R0001:C00108------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD        1.0 06:Ext-12        5.20      .338 No_date    6:05   20.91 .317      .000
      [CN= 73.0: N= 3.00: Tp=  .18]
#-----------------|------------------------------------------------------------|
#-----------------|------------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO EX. STORAGE AREA-------|
#-----------------|------------------------------------------------------------|
#-----------------|------------------------------------------------------------|
R0001:C00109------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD             1.0 01:825mm         4.50      .339 No_date    6:03   22.93  n/a      .000
```

```
                  +     1.0 02:900mm          22.80      .361 No_date    6:00   31.51  n/a      .000
                  +     1.0 04:Ext-10A        27.90      .998 No_date    6:07   12.78  n/a      .000
                  +     1.0 03:Ext-11          3.90      .382 No_date    6:01   22.10  n/a      .000
                  +     1.0 06:Ext-12          5.20      .338 No_date    6:05   20.91  n/a      .000
               SUM=     1.0 05:WET-STO        64.30     2.240 No_date    6:02   21.35  n/a      .000
#-----------------|---------------------------------------------------------------|
R0001:C00110------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 05:WET-STO        64.30     2.240 No_date    6:02   21.35  n/a      .000
                 out <=    1.0 04:22             64.30      .292 No_date    8:12   21.35  n/a      .000
            overflow <=    1.0 06:OVF               .00      .000 No_date    0:00     .00  n/a      .000
     {MxStoUsed=.4175E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
#-----------------|---------------------------------------------------------------|
R0001:C00111------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD           1.0 03:Ext-10B         4.90      .200 No_date    6:05   13.22 .200      .000
      [CN= 54.6: N= 3.00: Tp=  .17]
#-----------------|---------------------------------------------------------------|
#-----------------|---------------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS SUBWATERSHED 22 OUTFLOW --------|
#-----------------|---------------------------------------------------------------|
#-----------------|---------------------------------------------------------------|
R0001:C00112------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                1.0 03:Ext-10B         4.90      .200 No_date    6:05   13.22  n/a      .000
                  +     1.0 04:22             64.30      .292 No_date    8:12   21.35  n/a      .000
                  +     1.0 06:OVF               .00      .000 No_date    0:00     .00  n/a      .000
               SUM=     1.0 05:22             69.20      .414 No_date    6:07   20.78  n/a      .000
#-----------------|---------------------------------------------------------------|
#-----------------|----------25YR SCS 12 HR---------------------------------------|
#-----------------|---------------------------------------------------------------|
R0001:C00113----------------------------------------------------------------------------------------
     MASS STORM
      Filename = J:\100\119 - Tabera Ltd\2528\Design\SWM\Fourth Submission\SWMHYMO M
      Comment  = 12 hour SCS II storm mass curve
      [SDT= 1.00:SDUR=  12.00:PTOT=  79.20]
#-----------------|---------------------------------------------------------------|
#-----------------|----------------POST-DEVELOPMENT--------------------------------|
#-----------------|---------------------------------------------------------------|
#-----------------|--------------------OUTLET A-----------------------------------|
#-----------------|---------------------------------------------------------------|
R0001:C00114------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD           1.0 02:EXT-1           3.50      .385 No_date    6:03   29.35 .371      .000
      [CN= 73.0: N= 3.00: Tp=  .13]
#-----------------|---------------------------------------------------------------|
R0001:C00115------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD           1.0 03:INT-3            .20      .029 No_date    6:00   29.35 .371      .000
      [CN= 73.0: N= 3.00: Tp=  .05]
#-----------------|---------------------------------------------------------------|
R0001:C00116------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD           1.0 04:UNC-1            .80      .082 No_date    6:10   42.76 .540      .000
      [CN= 82.0: N= 3.00: Tp=  .28]
#-----------------|---------------------------------------------------------------|
#-----------------|---------------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 825mm CULVERT          |
#-----------------|---------------------------------------------------------------|
R0001:C00117------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:EXT-1           3.50      .385 No_date    6:03   29.35  n/a      .000
                  +     1.0 03:INT-3            .20      .029 No_date    6:00   29.35  n/a      .000
                  +     1.0 04:UNC-1            .80      .082 No_date    6:10   42.76  n/a      .000
               SUM=     1.0 01:825mm           4.50      .474 No_date    6:03   31.73  n/a      .000
#-----------------|---------------------------------------------------------------|
#-----------------|---------------------------------------------------------------|
#-----------------|----------OUTLET B---------------------------------------------|
#-----------------|---------------------------------------------------------------|
R0001:C00118------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD           1.0 05:EXT-2           4.10      .467 No_date    6:02   29.35 .371      .000
      [CN= 73.0: N= 3.00: Tp=  .12]
#-----------------|---------------------------------------------------------------|
R0001:C00119------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD           1.0 08:EXT-3           2.20      .242 No_date    6:03   29.35 .371      .000
      [CN= 73.0: N= 3.00: Tp=  .13]
#-----------------|---------------------------------------------------------------|
R0001:C00120------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB STANDHYD         1.0 06:INT-2           3.00      .383 No_date    6:02   48.51 .613      .000
      [XIMP=.15:TIMP=.31]
      [LOSS= 2 :CN= 79.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  65.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI= .50:LGI= 141.:MNI=.013:SCI=   .0]
#-----------------|---------------------------------------------------------------|
R0001:C00121------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD           1.0 07:INT-4            .60      .086 No_date    6:00   29.35 .371      .000
      [CN= 73.0: N= 3.00: Tp=  .05]
#-----------------|---------------------------------------------------------------|
R0001:C00122------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB STANDHYD         1.0 09:INT-1           8.60     1.027 No_date    6:03   48.88 .617      .000
      [XIMP=.15:TIMP=.32]
      [LOSS= 2 :CN= 79.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  65.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI= .50:LGI= 252.:MNI=.013:SCI=   .0]
#-----------------|---------------------------------------------------------------|
#-----------------|---------------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE SWMF-------------|
#-----------------|---------------------------------------------------------------|
#-----------------|---------------------------------------------------------------|
R0001:C00123------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                1.0 05:EXT-2           4.10      .467 No_date    6:02   29.35  n/a      .000
                  +     1.0 08:EXT-3           2.20      .242 No_date    6:03   29.35  n/a      .000
                  +     1.0 06:INT-2           3.00      .383 No_date    6:02   48.51  n/a      .000
                  +     1.0 07:INT-4            .60      .086 No_date    6:00   29.35  n/a      .000
                  +     1.0 09:INT-1           8.60     1.027 No_date    6:03   48.88  n/a      .000
               SUM=     1.0 04:POOL1INT       18.50     2.177 No_date    6:02   41.54  n/a      .000
#-----------------|---------------------------------------------------------------|
R0001:C00124------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB STANDHYD         1.0 02:SWMF             .80      .173 No_date    6:00   58.02 .733      .000
      [XIMP=.50:TIMP=.50]
      [LOSS= 2 :CN= 79.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  20.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI=2.00:LGI=  68.:MNI=.013:SCI=   .0]
#-----------------|---------------------------------------------------------------|
R0001:C00125------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                1.0 04:POOL1INT       18.50     2.177 No_date    6:02   41.54  n/a      .000
                  +     1.0 02:SWMF             .80      .173 No_date    6:00   58.02  n/a      .000
               SUM=     1.0 03:POOL1          19.30     2.299 No_date    6:01   42.22  n/a      .000
#-----------------|---------------------------------------------------------------|
#-----------------|---------------------------------------------------------------|
R0001:C00126------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 03:POOL1          19.30     2.299 No_date    6:01   42.22  n/a      .000
                 out <=    1.0 06:POOL           19.30      .198 No_date    7:45   42.22  n/a      .000
            overflow <=    1.0 07:OVF1              .00      .000 No_date    0:00     .00  n/a      .000
     {MxStoUsed=.5426E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
#-----------------|---------------------------------------------------------------|
R0001:C00127------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB STANDHYD         1.0 10:UNC-2           1.50      .178 No_date    6:02   45.24 .571      .000
      [XIMP=.08:TIMP=.22]
      [LOSS= 2 :CN= 79.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  65.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI= .50:LGI= 100.:MNI=.013:SCI=   .0]
#-----------------|---------------------------------------------------------------|
R0001:C00128------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD           1.0 04:UNC-3           2.00      .314 No_date    6:00   32.40 .409      .000
      [CN= 75.3: N= 3.00: Tp=  .05]
#-----------------|---------------------------------------------------------------|
#-----------------|---------------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 900mm CULVERT-----|
#-----------------|---------------------------------------------------------------|
R0001:C00129------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                1.0 04:UNC-3           2.00      .314 No_date    6:00   32.40  n/a      .000
                  +     1.0 06:POOL           19.30      .198 No_date    7:45   42.22  n/a      .000
                  +     1.0 07:OVF1              .00      .000 No_date    0:00     .00  n/a      .000
                  +     1.0 10:UNC-2           1.50      .178 No_date    6:02   45.24  n/a      .000
               SUM=     1.0 02:900mm          22.80      .515 No_date    6:00   41.56  n/a      .000
#-----------------|---------------------------------------------------------------|
#-----------------|---------------------------------------------------------------|
#-----------------|----------OUTLET C---------------------------------------------|
#-----------------|---------------------------------------------------------------|
R0001:C00130------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD           1.0 04:EXT-4           2.60      .286 No_date    6:03   29.35 .371      .000
      [CN= 73.0: N= 3.00: Tp=  .13]
#-----------------|---------------------------------------------------------------|
R0001:C00131------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD           1.0 05:EXT-5           5.20      .615 No_date    6:02   29.35 .371      .000
      [CN= 73.0: N= 3.00: Tp=  .11]
#-----------------|---------------------------------------------------------------|
R0001:C00132------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD           1.0 08:INT-5            .10      .014 No_date    6:00   29.35 .371      .000
      [CN= 73.0: N= 3.00: Tp=  .05]
#-----------------|---------------------------------------------------------------|
#-----------------|---------------------------------------------------------------|
#-----------------|-------THE ADD HYD MODELS FLOW TO WC21A--------------------|
#-----------------|---------------------------------------------------------------|
R0001:C00133------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                1.0 04:EXT-4           2.60      .286 No_date    6:03   29.35  n/a      .000
                  +     1.0 05:EXT-5           5.20      .615 No_date    6:02   29.35  n/a      .000
                  +     1.0 08:INT-5            .10      .014 No_date    6:00   29.35  n/a      .000
               SUM=     1.0 06:EXT4_5          7.90      .912 No_date    6:02   29.35  n/a      .000
#-----------------|---------------------------------------------------------------|
R0001:C00134------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 06:EXT4_5          7.90      .912 No_date    6:02   29.35  n/a      .000
     [RDT= 1.00] out<-    1.0 05:WC21A           7.90      .589 No_date    6:08   29.35  n/a      .000
      [L/S/n=  730./5.500/.070]
      {Vmax=  .967:Dmax=  .343}
#-----------------|---------------------------------------------------------------|
R0001:C00135------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD           1.0 04:UNC-4           3.10      .063 No_date    6:13    9.81 .124      .000
      [CN= 37.0: N= 3.00: Tp=  .30]
#-----------------|---------------------------------------------------------------|
#-----------------|-------THE ADD HYD MODELS FLOW TO WC21A AT SITE------------|
#-----------------|---------------------------------------------------------------|
R0001:C00136------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                1.0 05:WC21A           7.90      .589 No_date    6:08   29.35  n/a      .000
                  +     1.0 04:UNC-4           3.10      .063 No_date    6:13    9.81  n/a      .000
               SUM=     1.0 03:EXT_UNC        11.00      .649 No_date    6:09   23.84  n/a      .000
#-----------------|---------------------------------------------------------------|
#-----------------|---------------------------------------------------------------|
R0001:C00137------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD           1.0 07:Ext-6           6.00      .328 No_date    6:18   29.35 .371      .000
      [CN= 73.0: N= 3.00: Tp=  .39]
#-----------------|---------------------------------------------------------------|
R0001:C00138------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD           1.0 09:Ext-7           6.00      .536 No_date    6:06   29.35 .371      .000
      [CN= 73.0: N= 3.00: Tp=  .19]
#-----------------|---------------------------------------------------------------|
R0001:C00139------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD           1.0 10:Ext-8          13.10      .779 No_date    6:19   32.19 .406      .000
      [CN= 75.2: N= 3.00: Tp=  .40]
#-----------------|---------------------------------------------------------------|
#-----------------|---------------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS SUBWATERSHED FLOW---------------|
#-----------------|---------------------------------------------------------------|
R0001:C00140------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                1.0 07:Ext-6           6.00      .328 No_date    6:18   29.35  n/a      .000
                  +     1.0 03:EXT_UNC        11.00      .649 No_date    6:09   23.84  n/a      .000
                  +     1.0 09:Ext-7           6.00      .536 No_date    6:06   29.35  n/a      .000
                  +     1.0 10:Ext-8          13.10      .779 No_date    6:19   32.19  n/a      .000
               SUM=     1.0 04:NE_DITCH       36.10     2.137 No_date    6:11   28.70  n/a      .000
#-----------------|---------------------------------------------------------------|
R0001:C00141------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD           1.0 06:Ext-9           7.00      .500 No_date    6:15   34.23 .432      .000
      [CN= 76.8: N= 3.00: Tp=  .34]
#-----------------|---------------------------------------------------------------|
#-----------------|---------------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS Subwatershed 21A Outflow-------|
#-----------------|---------------------------------------------------------------|
#-----------------|---------------------------------------------------------------|
R0001:C00142------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                1.0 04:NE_DITCH       36.10     2.137 No_date    6:11   28.70  n/a      .000
                  +     1.0 06:Ext-9           7.00      .500 No_date    6:15   34.23  n/a      .000
               SUM=     1.0 05:21A            43.10     2.627 No_date    6:11   29.60  n/a      .000
#-----------------|---------------------------------------------------------------|
R0001:C00143------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD           1.0 04:Ext-10A        27.90     1.452 No_date    6:06   18.40 .232      .000
      [CN= 56.0: N= 3.00: Tp=  .20]
#-----------------|---------------------------------------------------------------|
R0001:C00144------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD           1.0 03:Ext-11          3.90      .528 No_date    6:01   30.64 .387      .000
      [CN= 72.9: N= 3.00: Tp=  .08]
#-----------------|---------------------------------------------------------------|
R0001:C00145------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD           1.0 06:Ext-12          5.20      .480 No_date    6:05   29.35 .371      .000
      [CN= 73.0: N= 3.00: Tp=  .18]
#-----------------|---------------------------------------------------------------|
#-----------------|---------------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO EX. STORAGE AREA------|
#-----------------|---------------------------------------------------------------|
#-----------------|---------------------------------------------------------------|
R0001:C00146------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                1.0 01:825mm           4.50      .474 No_date    6:03   31.73  n/a      .000
                  +     1.0 02:900mm          22.80      .515 No_date    6:00   41.56  n/a      .000
                  +     1.0 04:Ext-10A        27.90     1.452 No_date    6:06   18.40  n/a      .000
                  +     1.0 03:Ext-11          3.90      .528 No_date    6:01   30.64  n/a      .000
                  +     1.0 06:Ext-12          5.20      .480 No_date    6:05   29.35  n/a      .000
               SUM=     1.0 05:WET-STO        64.30     3.212 No_date    6:02   29.17  n/a      .000
#-----------------|---------------------------------------------------------------|
R0001:C00147------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 05:WET-STO        64.30     3.212 No_date    6:02   29.17  n/a      .000
                 out <=    1.0 04:22             64.30      .362 No_date    9:01   29.17  n/a      .000
            overflow <=    1.0 06:OVF               .00      .000 No_date    0:00     .00  n/a      .000
     {MxStoUsed=.6763E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
#-----------------|---------------------------------------------------------------|
R0001:C00148------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD           1.0 03:Ext-10B         4.90      .286 No_date    6:05   18.77 .237      .000
      [CN= 54.6: N= 3.00: Tp=  .17]
#-----------------|---------------------------------------------------------------|
#-----------------|---------------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS SUBWATERSHED 22 OUTFLOW --------|
#-----------------|---------------------------------------------------------------|
#-----------------|---------------------------------------------------------------|
R0001:C00149------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                1.0 03:Ext-10B         4.90      .286 No_date    6:05   18.77  n/a      .000
                  +     1.0 04:22             64.30      .362 No_date    9:01   29.17  n/a      .000
                  +     1.0 06:OVF               .00      .000 No_date    0:00     .00  n/a      .000
               SUM=     1.0 05:22             69.20      .534 No_date    6:06   28.44  n/a      .000
#-----------------|---------------------------------------------------------------|
#-----------------|----------50YR SCS 12 HR---------------------------------------|
#-----------------|---------------------------------------------------------------|
R0001:C00150----------------------------------------------------------------------------------------
     MASS STORM
      Filename = J:\100\119 - Tabera Ltd\2528\Design\SWM\Fourth Submission\SWMHYMO M
      Comment  = 12 hour SCS II storm mass curve
      [SDT= 1.00:SDUR=  12.00:PTOT=  88.80]
#-----------------|---------------------------------------------------------------|
#-----------------|----------------POST-DEVELOPMENT--------------------------------|
#-----------------|---------------------------------------------------------------|
#-----------------|--------------------OUTLET A-----------------------------------|
#-----------------|---------------------------------------------------------------|
R0001:C00151------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD           1.0 02:EXT-1           3.50      .472 No_date    6:03   35.95 .405      .000
      [CN= 73.0: N= 3.00: Tp=  .13]
#-----------------|---------------------------------------------------------------|
R0001:C00152------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD           1.0 03:INT-3            .20      .035 No_date    6:00   35.95 .405      .000
      [CN= 73.0: N= 3.00: Tp=  .05]
#-----------------|---------------------------------------------------------------|
R0001:C00153------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD           1.0 04:UNC-1            .80      .098 No_date    6:10   50.72 .571      .000
      [CN= 82.0: N= 3.00: Tp=  .28]
#-----------------|---------------------------------------------------------------|
#-----------------|---------------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 825mm CULVERT          |
#-----------------|---------------------------------------------------------------|
R0001:C00154------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:EXT-1           3.50      .472 No_date    6:03   35.95  n/a      .000
                  +     1.0 03:INT-3            .20      .035 No_date    6:00   35.95  n/a      .000
                  +     1.0 04:UNC-1            .80      .098 No_date    6:10   50.72  n/a      .000
               SUM=     1.0 01:825mm           4.50      .579 No_date    6:02   38.57  n/a      .000
#-----------------|---------------------------------------------------------------|
#-----------------|---------------------------------------------------------------|
#-----------------|----------OUTLET B---------------------------------------------|
#-----------------|---------------------------------------------------------------|
R0001:C00155------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD           1.0 05:EXT-2           4.10      .573 No_date    6:02   35.95 .405      .000
      [CN= 73.0: N= 3.00: Tp=  .12]
#-----------------|---------------------------------------------------------------|
R0001:C00156------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD           1.0 08:EXT-3           2.20      .296 No_date    6:03   35.95 .405      .000
      [CN= 73.0: N= 3.00: Tp=  .13]
#-----------------|---------------------------------------------------------------|
R0001:C00157------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB STANDHYD         1.0 06:INT-2           3.00      .470 No_date    6:02   56.76 .639      .000
      [XIMP=.15:TIMP=.31]
      [LOSS= 2 :CN= 79.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  65.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI= .50:LGI= 141.:MNI=.013:SCI=   .0]
#-----------------|---------------------------------------------------------------|
R0001:C00158------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD           1.0 07:INT-4            .60      .105 No_date    6:00   35.95 .405      .000
      [CN= 73.0: N= 3.00: Tp=  .05]
#-----------------|---------------------------------------------------------------|
R0001:C00159------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB STANDHYD         1.0 09:INT-1           8.60     1.263 No_date    6:03   57.16 .644      .000
      [XIMP=.15:TIMP=.32]
      [LOSS= 2 :CN= 79.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  65.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI= .50:LGI= 252.:MNI=.013:SCI=   .0]
#-----------------|---------------------------------------------------------------|
#-----------------|---------------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE SWMF-------------|
#-----------------|---------------------------------------------------------------|
#-----------------|---------------------------------------------------------------|
R0001:C00160------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                1.0 05:EXT-2           4.10      .573 No_date    6:02   35.95  n/a      .000
                  +     1.0 08:EXT-3           2.20      .296 No_date    6:03   35.95  n/a      .000
                  +     1.0 06:INT-2           3.00      .470 No_date    6:02   56.76  n/a      .000
                  +     1.0 07:INT-4            .60      .105 No_date    6:00   35.95  n/a      .000
                  +     1.0 09:INT-1           8.60     1.263 No_date    6:03   57.16  n/a      .000
               SUM=     1.0 04:POOL1INT       18.50     2.675 No_date    6:02   49.18  n/a      .000
#-----------------|---------------------------------------------------------------|
R0001:C00161------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB STANDHYD         1.0 02:SWMF             .80      .200 No_date    6:00   66.60 .750      .000
      [XIMP=.50:TIMP=.50]
      [LOSS= 2 :CN= 79.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  20.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI=2.00:LGI=  68.:MNI=.013:SCI=   .0]
#-----------------|---------------------------------------------------------------|
R0001:C00162------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                1.0 04:POOL1INT       18.50     2.675 No_date    6:02   49.18  n/a      .000
                  +     1.0 02:SWMF             .80      .200 No_date    6:00   66.60  n/a      .000
               SUM=     1.0 03:POOL1          19.30     2.818 No_date    6:01   49.91  n/a      .000
#-----------------|---------------------------------------------------------------|
#-----------------|---------------------------------------------------------------|
R0001:C00163------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 03:POOL1          19.30     2.818 No_date    6:01   49.91  n/a      .000
                 out <=    1.0 06:POOL           19.30      .270 No_date    7:16   49.90  n/a      .000
            overflow <=    1.0 07:OVF1              .00      .000 No_date    0:00     .00  n/a      .000
     {MxStoUsed=.6269E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
#-----------------|---------------------------------------------------------------|
R0001:C00164------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB STANDHYD         1.0 10:UNC-2           1.50      .215 No_date    6:02   53.30 .600      .000
      [XIMP=.08:TIMP=.22]
      [LOSS= 2 :CN= 79.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  65.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI= .50:LGI= 100.:MNI=.013:SCI=   .0]
#-----------------|---------------------------------------------------------------|
R0001:C00165------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD           1.0 04:UNC-3           2.00      .378 No_date    6:00   39.36 .443      .000
      [CN= 75.3: N= 3.00: Tp=  .05]
#-----------------|---------------------------------------------------------------|
#-----------------|---------------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 900mm CULVERT-----|
#-----------------|---------------------------------------------------------------|
R0001:C00166------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                1.0 04:UNC-3           2.00      .378 No_date    6:00   39.36  n/a      .000
                  +     1.0 06:POOL           19.30      .270 No_date    7:16   49.90  n/a      .000
                  +     1.0 07:OVF1              .00      .000 No_date    0:00     .00  n/a      .000
                  +     1.0 10:UNC-2           1.50      .215 No_date    6:02   53.30  n/a      .000
               SUM=     1.0 02:900mm          22.80      .632 No_date    6:00   49.20  n/a      .000
```

```
#-----------------|-----------------------------------------------------------|
#-----------------|-----------------------------------------------------------|
#-----------------|-----------OUTLET C---------------------------------------|
#-----------------|-----------------------------------------------------------|
R0001:C00167------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD           1.0 04:EXT-4          2.60     .350 No_date    6:03   35.95 .405      .000
      [CN= 73.0: N= 3.00: Tp=  .13]
#-----------------|-----------------------------------------------------------|
R0001:C00168------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD           1.0 05:EXT-5          5.20     .753 No_date    6:02   35.95 .405      .000
      [CN= 73.0: N= 3.00: Tp=  .11]
#-----------------|-----------------------------------------------------------|
R0001:C00169------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD           1.0 08:INT-5           .10     .017 No_date    6:00   35.95 .405      .000
      [CN= 73.0: N= 3.00: Tp=  .05]
#-----------------|-----------------------------------------------------------|
#-----------------|-----------------------------------------------------------|
#-----------------|-------THE ADD HYD MODELS FLOW TO WC21A-------------------|
#-----------------|-----------------------------------------------------------|
R0001:C00170------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                1.0 04:EXT-4          2.60     .350 No_date    6:03   35.95  n/a      .000
                   +       1.0 05:EXT-5          5.20     .753 No_date    6:02   35.95  n/a      .000
                   +       1.0 08:INT-5           .10     .017 No_date    6:00   35.95  n/a      .000
                SUM=       1.0 06:EXT4_5         7.90    1.117 No_date    6:02   35.95  n/a      .000
#-----------------|-----------------------------------------------------------|
R0001:C00171------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->     1.0 06:EXT4_5         7.90    1.117 No_date    6:02   35.95  n/a      .000
     [RDT= 1.00] out<-     1.0 05:WC21A          7.90     .738 No_date    6:08   35.95  n/a      .000
      [L/S/n=  730./5.500/.070]
      {Vmax= 1.014:Dmax=  .372}
#-----------------|-----------------------------------------------------------|
R0001:C00172------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD           1.0 04:UNC-4          3.10     .081 No_date    6:13   12.44 .140      .000
      [CN= 37.0: N= 3.00: Tp=  .30]
#-----------------|-----------------------------------------------------------|
#-----------------|-------THE ADD HYD MODELS FLOW TO WC21A AT SITE------------|
#-----------------|-----------------------------------------------------------|
R0001:C00173------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                1.0 05:WC21A          7.90     .738 No_date    6:08   35.95  n/a      .000
                   +       1.0 04:UNC-4          3.10     .081 No_date    6:13   12.44  n/a      .000
                SUM=       1.0 03:EXT_UNC       11.00     .815 No_date    6:08   29.32  n/a      .000
#-----------------|-----------------------------------------------------------|
#-----------------|-----------------------------------------------------------|
R0001:C00174------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD           1.0 07:Ext-6          6.00     .406 No_date    6:18   35.95 .405      .000
      [CN= 73.0: N= 3.00: Tp=  .39]
#-----------------|-----------------------------------------------------------|
R0001:C00175------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD           1.0 09:Ext-7          6.00     .660 No_date    6:06   35.95 .405      .000
      [CN= 73.0: N= 3.00: Tp=  .19]
#-----------------|-----------------------------------------------------------|
R0001:C00176------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD           1.0 10:Ext-8         13.10     .953 No_date    6:19   39.12 .441      .000
      [CN= 75.2: N= 3.00: Tp=  .40]
#-----------------|-----------------------------------------------------------|
#-----------------|-----------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS SUBWATERSHED FLOW---------------|
#-----------------|-----------------------------------------------------------|
R0001:C00177------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                1.0 07:Ext-6          6.00     .406 No_date    6:18   35.95  n/a      .000
                   +       1.0 03:EXT_UNC       11.00     .815 No_date    6:08   29.32  n/a      .000
                   +       1.0 09:Ext-7          6.00     .660 No_date    6:06   35.95  n/a      .000
                   +       1.0 10:Ext-8         13.10     .953 No_date    6:19   39.12  n/a      .000
                SUM=       1.0 04:NE_DITCH      36.10    2.642 No_date    6:10   35.08  n/a      .000
#-----------------|-----------------------------------------------------------|
R0001:C00178------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD           1.0 06:Ext-9          7.00     .608 No_date    6:14   41.40 .466      .000
      [CN= 76.8: N= 3.00: Tp=  .34]
#-----------------|-----------------------------------------------------------|
#-----------------|-----------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS Subwatershed 21A Outflow--------|
#-----------------|-----------------------------------------------------------|
#-----------------|-----------------------------------------------------------|
R0001:C00179------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                1.0 04:NE_DITCH      36.10    2.642 No_date    6:10   35.08  n/a      .000
                   +       1.0 06:Ext-9          7.00     .608 No_date    6:14   41.40  n/a      .000
                SUM=       1.0 05:21A           43.10    3.235 No_date    6:11   36.11  n/a      .000
#-----------------|-----------------------------------------------------------|
R0001:C00180------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD           1.0 04:Ext-10A       27.90    1.821 No_date    6:06   22.94 .258      .000
      [CN= 56.0: N= 3.00: Tp=  .20]
#-----------------|-----------------------------------------------------------|
R0001:C00181------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD           1.0 03:Ext-11         3.90     .641 No_date    6:01   37.29 .420      .000
      [CN= 72.9: N= 3.00: Tp=  .08]
#-----------------|-----------------------------------------------------------|
R0001:C00182------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD           1.0 06:Ext-12         5.20     .591 No_date    6:05   35.95 .405      .000
      [CN= 73.0: N= 3.00: Tp=  .18]
#-----------------|-----------------------------------------------------------|
#-----------------|-----------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO EX. STORAGE AREA------|
#-----------------|-----------------------------------------------------------|
#-----------------|-----------------------------------------------------------|
R0001:C00183------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                1.0 01:825mm          4.50     .579 No_date    6:02   38.57  n/a      .000
                   +       1.0 02:900mm         22.80     .632 No_date    6:00   49.20  n/a      .000
                   +       1.0 04:Ext-10A       27.90    1.821 No_date    6:06   22.94  n/a      .000
                   +       1.0 03:Ext-11         3.90     .641 No_date    6:01   37.29  n/a      .000
                   +       1.0 06:Ext-12         5.20     .591 No_date    6:05   35.95  n/a      .000
                SUM=       1.0 05:WET-STO       64.30    3.983 No_date    6:02   35.27  n/a      .000
#-----------------|-----------------------------------------------------------|
R0001:C00184------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->     1.0 05:WET-STO       64.30    3.983 No_date    6:02   35.27  n/a      .000
                 out <=    1.0 04:22            64.30     .417 No_date   10:04   35.27  n/a      .000
            overflow <=    1.0 06:OVF             .00     .000 No_date    0:00     .00  n/a      .000
     {MxStoUsed=.9072E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
#-----------------|-----------------------------------------------------------|
R0001:C00185------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD           1.0 03:Ext-10B        4.90     .356 No_date    6:05   23.25 .262      .000
      [CN= 54.6: N= 3.00: Tp=  .17]
#-----------------|-----------------------------------------------------------|
#-----------------|-----------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS SUBWATERSHED 22 OUTFLOW --------|
#-----------------|-----------------------------------------------------------|
#-----------------|-----------------------------------------------------------|
R0001:C00186------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                1.0 03:Ext-10B        4.90     .356 No_date    6:05   23.25  n/a      .000
                   +       1.0 04:22            64.30     .417 No_date   10:04   35.27  n/a      .000
                   +       1.0 06:OVF             .00     .000 No_date    0:00     .00  n/a      .000
                SUM=       1.0 05:22            69.20     .624 No_date    6:06   34.42  n/a      .000
#-----------------|-----------------------------------------------------------|
#-----------------|----------100YR SCS 12 HR-------------------------------|
#-----------------|-----------------------------------------------------------|
R0001:C00187------------------------------------------------------------------------------------
     MASS STORM
      Filename = J:\100\119 - Tabera Ltd\2528\Design\SWM\Fourth Submission\SWMHYMO M
      Comment  = 12 hour SCS II storm mass curve
      [SDT= 1.00:SDUR=  12.00:PTOT=  98.40]
#-----------------|-----------------------------------------------------------|
#-----------------|-----------------POST-DEVELOPMENT-------------------------|
#-----------------|-----------------------------------------------------------|
#-----------------|--------------------OUTLET A----------------------------|
#-----------------|-----------------------------------------------------------|
R0001:C00188------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD           1.0 02:EXT-1          3.50     .563 No_date    6:03   42.86 .436      .000
      [CN= 73.0: N= 3.00: Tp=  .13]
#-----------------|-----------------------------------------------------------|
R0001:C00189------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD           1.0 03:INT-3           .20     .041 No_date    6:00   42.86 .436      .000
      [CN= 73.0: N= 3.00: Tp=  .05]
#-----------------|-----------------------------------------------------------|
R0001:C00190------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD           1.0 04:UNC-1           .80     .114 No_date    6:10   58.90 .599      .000
      [CN= 82.0: N= 3.00: Tp=  .28]
#-----------------|-----------------------------------------------------------|
#-----------------|-----------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 825mm CULVERT      |
#-----------------|-----------------------------------------------------------|
R0001:C00191------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:EXT-1          3.50     .563 No_date    6:03   42.86  n/a      .000
                   +       1.0 03:INT-3           .20     .041 No_date    6:00   42.86  n/a      .000
                   +       1.0 04:UNC-1           .80     .114 No_date    6:10   58.90  n/a      .000
                SUM=       1.0 01:825mm          4.50     .689 No_date    6:02   45.71  n/a      .000
#-----------------|-----------------------------------------------------------|
#-----------------|-----------------------------------------------------------|
#-----------------|----------OUTLET B---------------------------------------|
#-----------------|-----------------------------------------------------------|
R0001:C00192------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD           1.0 05:EXT-2          4.10     .684 No_date    6:02   42.86 .436      .000
      [CN= 73.0: N= 3.00: Tp=  .12]
#-----------------|-----------------------------------------------------------|
R0001:C00193------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD           1.0 08:EXT-3          2.20     .354 No_date    6:03   42.86 .436      .000
      [CN= 73.0: N= 3.00: Tp=  .13]
#-----------------|-----------------------------------------------------------|
R0001:C00194------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB STANDHYD         1.0 06:INT-2          3.00     .556 No_date    6:01   65.18 .662      .000
      [XIMP=.15:TIMP=.31]
      [LOSS= 2 :CN= 79.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  65.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI= .50:LGI= 141.:MNI=.013:SCI=   .0]
#-----------------|-----------------------------------------------------------|
R0001:C00195------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD           1.0 07:INT-4           .60     .124 No_date    6:00   42.86 .436      .000
      [CN= 73.0: N= 3.00: Tp=  .05]
#-----------------|-----------------------------------------------------------|
R0001:C00196------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB STANDHYD         1.0 09:INT-1          8.60    1.514 No_date    6:03   65.61 .667      .000
      [XIMP=.15:TIMP=.32]
      [LOSS= 2 :CN= 79.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  65.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI= .50:LGI= 252.:MNI=.013:SCI=   .0]
#-----------------|-----------------------------------------------------------|
#-----------------|-----------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE SWMF--------------|
#-----------------|-----------------------------------------------------------|
#-----------------|-----------------------------------------------------------|
R0001:C00197------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                1.0 05:EXT-2          4.10     .684 No_date    6:02   42.86  n/a      .000
                   +       1.0 08:EXT-3          2.20     .354 No_date    6:03   42.86  n/a      .000
                   +       1.0 06:INT-2          3.00     .556 No_date    6:01   65.18  n/a      .000
                   +       1.0 07:INT-4           .60     .124 No_date    6:00   42.86  n/a      .000
                   +       1.0 09:INT-1          8.60    1.514 No_date    6:03   65.61  n/a      .000
                SUM=       1.0 04:POOL1INT      18.50    3.195 No_date    6:02   57.06  n/a      .000
#-----------------|-----------------------------------------------------------|
R0001:C00198------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB STANDHYD         1.0 02:SWMF            .80     .229 No_date    6:00   75.30 .765      .000
      [XIMP=.50:TIMP=.50]
      [LOSS= 2 :CN= 79.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  20.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI=2.00:LGI=  68.:MNI=.013:SCI=   .0]
#-----------------|-----------------------------------------------------------|
R0001:C00199------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                1.0 04:POOL1INT      18.50    3.195 No_date    6:02   57.06  n/a      .000
                   +       1.0 02:SWMF            .80     .229 No_date    6:00   75.30  n/a      .000
                SUM=       1.0 03:POOL1         19.30    3.331 No_date    6:02   57.81  n/a      .000
#-----------------|-----------------------------------------------------------|
#-----------------|-----------------------------------------------------------|
R0001:C00200------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->     1.0 03:POOL1         19.30    3.331 No_date    6:02   57.81  n/a      .000
                 out <=    1.0 06:POOL          19.30     .350 No_date    7:08   57.81  n/a      .000
            overflow <=    1.0 07:OVF1            .00     .000 No_date    0:00     .00  n/a      .000
     {MxStoUsed=.7144E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
#-----------------|-----------------------------------------------------------|
R0001:C00201------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB STANDHYD         1.0 10:UNC-2          1.50     .261 No_date    6:02   61.56 .626      .000
      [XIMP=.08:TIMP=.22]
      [LOSS= 2 :CN= 79.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  65.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI= .50:LGI= 100.:MNI=.013:SCI=   .0]
#-----------------|-----------------------------------------------------------|
R0001:C00202------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD           1.0 04:UNC-3          2.00     .445 No_date    6:00   46.60 .474      .000
      [CN= 75.3: N= 3.00: Tp=  .05]
#-----------------|-----------------------------------------------------------|
#-----------------|-----------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 900mm CULVERT-----|
#-----------------|-----------------------------------------------------------|
R0001:C00203------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                1.0 04:UNC-3          2.00     .445 No_date    6:00   46.60  n/a      .000
                   +       1.0 06:POOL          19.30     .350 No_date    7:08   57.81  n/a      .000
                   +       1.0 07:OVF1            .00     .000 No_date    0:00     .00  n/a      .000
                   +       1.0 10:UNC-2          1.50     .261 No_date    6:02   61.56  n/a      .000
                SUM=       1.0 02:900mm         22.80     .767 No_date    6:00   57.07  n/a      .000
#-----------------|-----------------------------------------------------------|
#-----------------|-----------------------------------------------------------|
#-----------------|----------OUTLET C---------------------------------------|
#-----------------|-----------------------------------------------------------|
R0001:C00204------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD           1.0 04:EXT-4          2.60     .418 No_date    6:03   42.86 .436      .000
      [CN= 73.0: N= 3.00: Tp=  .13]
#-----------------|-----------------------------------------------------------|
R0001:C00205------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD           1.0 05:EXT-5          5.20     .898 No_date    6:02   42.86 .436      .000
      [CN= 73.0: N= 3.00: Tp=  .11]
#-----------------|-----------------------------------------------------------|
R0001:C00206------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD           1.0 08:INT-5           .10     .021 No_date    6:00   42.86 .436      .000
      [CN= 73.0: N= 3.00: Tp=  .05]
#-----------------|-----------------------------------------------------------|
#-----------------|-----------------------------------------------------------|
#-----------------|-------THE ADD HYD MODELS FLOW TO WC21A-------------------|
#-----------------|-----------------------------------------------------------|
R0001:C00207------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                1.0 04:EXT-4          2.60     .418 No_date    6:03   42.86  n/a      .000
                   +       1.0 05:EXT-5          5.20     .898 No_date    6:02   42.86  n/a      .000
                   +       1.0 08:INT-5           .10     .021 No_date    6:00   42.86  n/a      .000
                SUM=       1.0 06:EXT4_5         7.90    1.332 No_date    6:02   42.86  n/a      .000
#-----------------|-----------------------------------------------------------|
R0001:C00208------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->     1.0 06:EXT4_5         7.90    1.332 No_date    6:02   42.86  n/a      .000
     [RDT= 1.00] out<-     1.0 05:WC21A          7.90     .899 No_date    6:07   42.86  n/a      .000
      [L/S/n=  730./5.500/.070]
      {Vmax= 1.068:Dmax=  .403}
#-----------------|-----------------------------------------------------------|
R0001:C00209------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD           1.0 04:UNC-4          3.10     .100 No_date    6:13   15.32 .156      .000
      [CN= 37.0: N= 3.00: Tp=  .30]
#-----------------|-----------------------------------------------------------|
#-----------------|-------THE ADD HYD MODELS FLOW TO WC21A AT SITE------------|
#-----------------|-----------------------------------------------------------|
R0001:C00210------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                1.0 05:WC21A          7.90     .899 No_date    6:07   42.86  n/a      .000
                   +       1.0 04:UNC-4          3.10     .100 No_date    6:13   15.32  n/a      .000
                SUM=       1.0 03:EXT_UNC       11.00     .993 No_date    6:08   35.10  n/a      .000
#-----------------|-----------------------------------------------------------|
#-----------------|-----------------------------------------------------------|
R0001:C00211------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD           1.0 07:Ext-6          6.00     .487 No_date    6:18   42.86 .436      .000
      [CN= 73.0: N= 3.00: Tp=  .39]
#-----------------|-----------------------------------------------------------|
R0001:C00212------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD           1.0 09:Ext-7          6.00     .789 No_date    6:05   42.86 .436      .000
      [CN= 73.0: N= 3.00: Tp=  .19]
#-----------------|-----------------------------------------------------------|
R0001:C00213------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD           1.0 10:Ext-8         13.10    1.136 No_date    6:18   46.35 .471      .000
      [CN= 75.2: N= 3.00: Tp=  .40]
#-----------------|-----------------------------------------------------------|
#-----------------|-----------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS SUBWATERSHED FLOW---------------|
#-----------------|-----------------------------------------------------------|
R0001:C00214------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                1.0 07:Ext-6          6.00     .487 No_date    6:18   42.86  n/a      .000
                   +       1.0 03:EXT_UNC       11.00     .993 No_date    6:08   35.10  n/a      .000
                   +       1.0 09:Ext-7          6.00     .789 No_date    6:05   42.86  n/a      .000
                   +       1.0 10:Ext-8         13.10    1.136 No_date    6:18   46.35  n/a      .000
                SUM=       1.0 04:NE_DITCH      36.10    3.174 No_date    6:10   41.76  n/a      .000
#-----------------|-----------------------------------------------------------|
R0001:C00215------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD           1.0 06:Ext-9          7.00     .721 No_date    6:14   48.85 .496      .000
      [CN= 76.8: N= 3.00: Tp=  .34]
#-----------------|-----------------------------------------------------------|
#-----------------|-----------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS Subwatershed 21A Outflow--------|
#-----------------|-----------------------------------------------------------|
#-----------------|-----------------------------------------------------------|
R0001:C00216------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                1.0 04:NE_DITCH      36.10    3.174 No_date    6:10   41.76  n/a      .000
                   +       1.0 06:Ext-9          7.00     .721 No_date    6:14   48.85  n/a      .000
                SUM=       1.0 05:21A           43.10    3.873 No_date    6:11   42.91  n/a      .000
#-----------------|-----------------------------------------------------------|
R0001:C00217------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD           1.0 04:Ext-10A       27.90    2.219 No_date    6:06   27.81 .283      .000
      [CN= 56.0: N= 3.00: Tp=  .20]
#-----------------|-----------------------------------------------------------|
R0001:C00218------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD           1.0 03:Ext-11         3.90     .758 No_date    6:01   44.25 .450      .000
      [CN= 72.9: N= 3.00: Tp=  .08]
#-----------------|-----------------------------------------------------------|
R0001:C00219------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD           1.0 06:Ext-12         5.20     .707 No_date    6:05   42.86 .436      .000
      [CN= 73.0: N= 3.00: Tp=  .18]
#-----------------|-----------------------------------------------------------|
#-----------------|-----------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO EX. STORAGE AREA------|
#-----------------|-----------------------------------------------------------|
#-----------------|-----------------------------------------------------------|
R0001:C00220------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                1.0 01:825mm          4.50     .689 No_date    6:02   45.71  n/a      .000
                   +       1.0 02:900mm         22.80     .767 No_date    6:00   57.07  n/a      .000
                   +       1.0 04:Ext-10A       27.90    2.219 No_date    6:06   27.81  n/a      .000
                   +       1.0 03:Ext-11         3.90     .758 No_date    6:01   44.25  n/a      .000
                   +       1.0 06:Ext-12         5.20     .707 No_date    6:05   42.86  n/a      .000
                SUM=       1.0 05:WET-STO       64.30    4.808 No_date    6:02   41.65  n/a      .000
#-----------------|-----------------------------------------------------------|
R0001:C00221------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->     1.0 05:WET-STO       64.30    4.808 No_date    6:02   41.65  n/a      .000
                 out <=    1.0 04:22            64.30     .468 No_date   10:08   41.65  n/a      .000
            overflow <=    1.0 06:OVF             .00     .000 No_date    0:00     .00  n/a      .000
     {MxStoUsed=.1162E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
#-----------------|-----------------------------------------------------------|
R0001:C00222------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD           1.0 03:Ext-10B        4.90     .430 No_date    6:05   28.04 .285      .000
      [CN= 54.6: N= 3.00: Tp=  .17]
#-----------------|-----------------------------------------------------------|
#-----------------|-----------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS SUBWATERSHED 22 OUTFLOW --------|
#-----------------|-----------------------------------------------------------|
#-----------------|-----------------------------------------------------------|
R0001:C00223------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                1.0 03:Ext-10B        4.90     .430 No_date    6:05   28.04  n/a      .000
                   +       1.0 04:22            64.30     .468 No_date   10:08   41.65  n/a      .000
                   +       1.0 06:OVF             .00     .000 No_date    0:00     .00  n/a      .000
                SUM=       1.0 05:22            69.20     .722 No_date    6:06   40.69  n/a      .000
R0001:C00224------------------------------------------------------------------------------------
    FINISH
----------------------------------------------------------------------------------------------------
****************************************************************************************************
     WARNINGS / ERRORS / NOTES
     -------------------------
   Simulation ended on 2022-02-10     at 16:06:49
====================================================================================================
```

```
2     Metric units
*#*****************************************************************************
*#  Project Name: [ALTA PHASE-II]    Project Number: [119-2528]
*#  Date         : 2021.06.30
*#  Modified     : 2021.06.30
*#  Modeller     : [Z. Holland]
*#  Company      : C.F. Crozier & Associates Inc.
*#  License #    : 3737016
*#*****************************************************************************
START                TZERO=[0.0],  METOUT=[2],  NSTORM=[0],  NRUN=[0]
*%                    [  ] <--storm filename, one per line for NSTORM time
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|----------2YR SCS--------------------------------------------|
*#-----------------|-------------------------------------------------------------|
MASS STORM           PTOTAL=[45.60](mm), CSDT=[1](min),
                     CURVE_FILENAME=["SCS24HII.mst"]
*%-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|----------------POST-DEVELOPMENT-----------------------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|--------------------OUTLET A---------------------------------|
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD         ID=[2], NHYD=["EXT-1"], DT=[1]min, AREA=[3.5](ha),
                     DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                     N=[3], TP=[0.13]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD         ID=[3], NHYD=["INT-3"], DT=[1]min, AREA=[0.2](ha),
                     DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                     N=[3], TP=[0.05]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD         ID=[4], NHYD=["UNC-1"], DT=[1]min, AREA=[0.8](ha),
                     DWF=[0](cms),  CN/C=[82], IA=[4.52](mm),
                     N=[3], TP=[0.28]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 825mm CULVERT        |
*#-----------------|-------------------------------------------------------------|
ADD HYD              IDsum=[1], NHYD=["825mm"], IDs to add=[2,3,4]
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|-----------OUTLET B------------------------------------------|
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD         ID=[5], NHYD=["EXT-2"], DT=[1]min, AREA=[4.1](ha),
                     DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                     N=[3], TP=[0.12]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD         ID=[8], NHYD=["EXT-3"], DT=[1]min, AREA=[2.2](ha),
                     DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                     N=[3], TP=[0.13]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
CALIB STANDHYD       ID=[6], NHYD=["INT-2"], DT=[1](min), AREA=[3](ha),
                     XIMP=[0.15], TIMP=[0.31], DWF=[0](cms), LOSS=[2],
                     SCS curve number CN=[79],
                     Pervious   surfaces: IAper=[5](mm), SLPP=[2](%),
                                          LGP=[65](m), MNP=[0.25], SCP=[0](min),
                     Impervious surfaces: IAimp=[2](mm), SLPI=[0.5](%),
                                          LGI=[141](m), MNI=[0.013], SCI=[0](min),
                     RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD         ID=[7], NHYD=["INT-4"], DT=[1]min, AREA=[0.6](ha),
                     DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                     N=[3], TP=[0.05]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
CALIB STANDHYD       ID=[9], NHYD=["INT-1"], DT=[1](min), AREA=[8.60](ha),
                     XIMP=[0.168], TIMP=[0.431], DWF=[0](cms), LOSS=[2],
                     SCS curve number CN=[79],
                     Pervious   surfaces: IAper=[5](mm), SLPP=[2](%),
                                          LGP=[65](m), MNP=[0.25], SCP=[0](min),
                     Impervious surfaces: IAimp=[2](mm), SLPI=[0.5](%),
                                          LGI=[239](m), MNI=[0.013], SCI=[0](min),
                     RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE SWMF-----------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
ADD HYD              IDsum=[4], NHYD=["POOL1INT"], IDs to add=[5,8,6,7,9]
*#-----------------|-------------------------------------------------------------|
CALIB STANDHYD       ID=[2], NHYD=["SWMF"], DT=[1](min), AREA=[0.8](ha),
                     XIMP=[0.5], TIMP=[0.5], DWF=[0](cms), LOSS=[2],
                     SCS curve number CN=[79],
                     Pervious   surfaces: IAper=[5](mm), SLPP=[2](%),
                                          LGP=[20](m), MNP=[0.25], SCP=[0](min),
                     Impervious surfaces: IAimp=[2](mm), SLPI=[2](%),
                                          LGI=[63](m), MNI=[0.013], SCI=[0](min),
                     RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|-------------------------------------------------------------|
ADD HYD              IDsum=[3], NHYD=["POOL1"], IDs to add=[4,2]
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
ROUTE RESERVOIR      IDout=[6],   NHYD=["POOL"],  IDin=[3],
                     RDT=[1](min),
                           TABLE of ( OUTFLOW-STORAGE ) values
                                       (cms) - (ha-m)
                                     [ 0.0 ,    0.0]
                                     [ 0.012,  0.126]
                                     [ 0.024,  0.189]
                                     [ 0.042,  0.251]
                                     [ 0.117,  0.440]
                                     [ 0.215,  0.564]
                                     [ 0.292,  0.652]
                                     [ 0.376,  0.743]
                                     [ 0.514,  0.887]
                                     [ 0.949,  1.317]
                                     [ 1.009,  1.339]
                                     [ 1.105,  1.360]
                                     [   -1  ,  -1  ]  (max twenty pts)
                           IDovf=[7], NHYDovf=["OVF1"]
*#-----------------|-------------------------------------------------------------|
CALIB STANDHYD       ID=[10], NHYD=["UNC-2"], DT=[1](min), AREA=[1.5](ha),
                     XIMP=[0.075], TIMP=[0.221], DWF=[0](cms), LOSS=[2],
                     SCS curve number CN=[79],
                     Pervious   surfaces: IAper=[5](mm), SLPP=[2](%),
                                          LGP=[65](m), MNP=[0.25], SCP=[0](min),
                     Impervious surfaces: IAimp=[2](mm), SLPI=[0.5](%),
                                          LGI=[100](m), MNI=[0.013], SCI=[0](min),
                     RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD         ID=[4], NHYD=["UNC-3"], DT=[1]min, AREA=[2.0](ha),
                     DWF=[0](cms),  CN/C=[75.3], IA=[8.57](mm),
                     N=[3], TP=[0.05]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 900mm CULVERT--------|
*#-----------------|-------------------------------------------------------------|
ADD HYD              IDsum=[2], NHYD=["900mm"], IDs to add=[4,6,7,10]
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|-----------OUTLET C------------------------------------------|
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD         ID=[4], NHYD=["EXT-4"], DT=[1]min, AREA=[2.6](ha),
                     DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                     N=[3], TP=[0.13]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD         ID=[5], NHYD=["EXT-5"], DT=[1]min, AREA=[5.2](ha),
                     DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                     N=[3], TP=[0.11]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD         ID=[8], NHYD=["INT-5"], DT=[1]min, AREA=[0.1](ha),
                     DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                     N=[3], TP=[0.05]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------THE ADD HYD MODELS FLOW TO WC21A-----------------------|
*#-----------------|-------------------------------------------------------------|
ADD HYD              IDsum=[6], NHYD=["EXT4_5"], IDs to add=[4,5,8]
*#-----------------|-------------------------------------------------------------|
ROUTE CHANNEL        IDout=[5], NHYD=["WC21A"], IDin=[6],
                     RDT=[1](min),
                     CHLGTH=[730](m),  CHSLOPE=[5.5](%),
                                       FPSLOPE=[5.5](%),
                     SECNUM=[1.1],      NSEG=[3]
                     ( SEGROUGH, SEGDIST (m))=[0.07,4.8 -0.07,19.0 0.07,41] NSEG times
                     ( DISTANCE (m), ELEVATION (m))=[0,220]
                                                    [4.8,217.5]
                                                    [19.0,215]
                                                    [34,217.5]
                                                    [41,220]
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD         ID=[4], NHYD=["UNC-4"], DT=[1]min, AREA=[3.10](ha),
                     DWF=[0](cms),  CN/C=[36.7], IA=[9.01](mm),
                     N=[3], TP=[0.30]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
*#-----------------|-----THE ADD HYD MODELS FLOW TO WC21A AT SITE-----------------|
*#-----------------|-------------------------------------------------------------|
ADD HYD              IDsum=[3], NHYD=["EXT_UNC"], IDs to add=[5,4]
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD         ID=[7], NHYD=["Ext-6"], DT=[1]min, AREA=[6.0](ha),
                     DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                     N=[3], TP=[0.39]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD         ID=[9], NHYD=["Ext-7"], DT=[1]min, AREA=[6.0](ha),
                     DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                     N=[3], TP=[0.19]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD         ID=[10], NHYD=["Ext-8"], DT=[1]min, AREA=[13.1](ha),
                     DWF=[0](cms),  CN/C=[75.2], IA=[8.74](mm),
                     N=[3], TP=[0.40]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS SUBWATERSHED FLOW-------------------|
*#-----------------|-------------------------------------------------------------|
ADD HYD              IDsum=[4], NHYD=["NE_DITCH"], IDs to add=[7,3,9,10]
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD         ID=[6], NHYD=["Ext-9"], DT=[1]min, AREA=[7.0](ha),
                     DWF=[0](cms),  CN/C=[76.8], IA=[8.06](mm),
                     N=[3], TP=[0.34]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS Subwatershed 21A Outflow-----------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
ADD HYD              IDsum=[5], NHYD=["21A"], IDs to add=[4,6]
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD         ID=[4], NHYD=["Ext-10A"], DT=[1]min, AREA=[27.9](ha),
                     DWF=[0](cms),  CN/C=[56.0], IA=[8.70](mm),
                     N=[3], TP=[0.20]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD         ID=[3], NHYD=["Ext-11"], DT=[1]min, AREA=[3.9](ha),
                     DWF=[0](cms),  CN/C=[72.9], IA=[7.96](mm),
                     N=[3], TP=[0.08]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD         ID=[6], NHYD=["Ext-12"], DT=[1]min, AREA=[5.2](ha),
                     DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                     N=[3], TP=[0.18]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO EX. STORAGE AREA---------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
ADD HYD              IDsum=[5], NHYD=["WET-STO"], IDs to add=[1,2,4,3,6]
*#-----------------|-------------------------------------------------------------|
ROUTE RESERVOIR      IDout=[4],   NHYD=["22"],  IDin=[5],
                     RDT=[1](min),
                           TABLE of ( OUTFLOW-STORAGE ) values
                                       (cms) - (ha-m)
                                     [   0.0 ,  0.0 ]
                                     [   0.0102 ,  0.002 ]
                                     [   0.04230 ,  0.004 ]
                                     [   0.0939 ,  0.006 ]
                                     [   0.1286 ,  0.008 ]
                                     [   0.16330 ,  0.045 ]
                                     [   0.2489 ,  0.262 ]
                                     [   0.3488 ,  0.622 ]
                                     [   0.4601 ,  1.088 ]
                                     [   0.51955 ,  1.623 ]
                                     [   0.579 ,  1.925 ]
                                     [   0.7014 ,  2.253 ]
                                     [   0.8216 ,  2.951 ]
                                     [   0.9345 ,  3.689 ]
                                     [   -1  ,  -1  ]  (max twenty pts)
                           IDovf=[6], NHYDovf=["OVF"]
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD         ID=[3], NHYD=["Ext-10B"], DT=[1]min, AREA=[4.9](ha),
                     DWF=[0](cms),  CN/C=[54.6], IA=[6.15](mm),
                     N=[3], TP=[0.17]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS SUBWATERSHED 22 OUTFLOW ---------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
ADD HYD              IDsum=[5], NHYD=["22"], IDs to add=[3,4,6]
*%-----------------|-------------------------------------------------------------|




*#-----------------|-------------------------------------------------------------|
*#-----------------|----------5YR SCS--------------------------------------------|
*#-----------------|-------------------------------------------------------------|
MASS STORM           PTOTAL=[62.4](mm), CSDT=[1](min),
                     CURVE_FILENAME=["SCS24HII.mst"]
*%-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|----------------POST-DEVELOPMENT-----------------------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|--------------------OUTLET A---------------------------------|
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD         ID=[2], NHYD=["EXT-1"], DT=[1]min, AREA=[3.5](ha),
                     DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                     N=[3], TP=[0.13]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD         ID=[3], NHYD=["INT-3"], DT=[1]min, AREA=[0.2](ha),
                     DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                     N=[3], TP=[0.05]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD         ID=[4], NHYD=["UNC-1"], DT=[1]min, AREA=[0.8](ha),
                     DWF=[0](cms),  CN/C=[82], IA=[4.52](mm),
                     N=[3], TP=[0.28]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 825mm CULVERT        |
*#-----------------|-------------------------------------------------------------|
ADD HYD              IDsum=[1], NHYD=["825mm"], IDs to add=[2,3,4]
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|-----------OUTLET B------------------------------------------|
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD         ID=[5], NHYD=["EXT-2"], DT=[1]min, AREA=[4.1](ha),
                     DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                     N=[3], TP=[0.12]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD         ID=[8], NHYD=["EXT-3"], DT=[1]min, AREA=[2.2](ha),
                     DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                     N=[3], TP=[0.13]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
CALIB STANDHYD       ID=[6], NHYD=["INT-2"], DT=[1](min), AREA=[3](ha),
                     XIMP=[0.15], TIMP=[0.31], DWF=[0](cms), LOSS=[2],
                     SCS curve number CN=[79],
                     Pervious   surfaces: IAper=[5](mm), SLPP=[2](%),
                                          LGP=[65](m), MNP=[0.25], SCP=[0](min),
                     Impervious surfaces: IAimp=[2](mm), SLPI=[0.5](%),
                                          LGI=[141](m), MNI=[0.013], SCI=[0](min),
                     RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD         ID=[7], NHYD=["INT-4"], DT=[1]min, AREA=[0.6](ha),
                     DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                     N=[3], TP=[0.05]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
CALIB STANDHYD       ID=[9], NHYD=["INT-1"], DT=[1](min), AREA=[8.60](ha),
                     XIMP=[0.168], TIMP=[0.431], DWF=[0](cms), LOSS=[2],
                     SCS curve number CN=[79],
                     Pervious   surfaces: IAper=[5](mm), SLPP=[2](%),
                                          LGP=[65](m), MNP=[0.25], SCP=[0](min),
                     Impervious surfaces: IAimp=[2](mm), SLPI=[0.5](%),
                                          LGI=[239](m), MNI=[0.013], SCI=[0](min),
                     RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE SWMF-----------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
ADD HYD              IDsum=[4], NHYD=["POOL1INT"], IDs to add=[5,8,6,7,9]
*#-----------------|-------------------------------------------------------------|
CALIB STANDHYD       ID=[2], NHYD=["SWMF"], DT=[1](min), AREA=[0.8](ha),
                     XIMP=[0.5], TIMP=[0.5], DWF=[0](cms), LOSS=[2],
                     SCS curve number CN=[79],
                     Pervious   surfaces: IAper=[5](mm), SLPP=[2](%),
                                          LGP=[20](m), MNP=[0.25], SCP=[0](min),
                     Impervious surfaces: IAimp=[2](mm), SLPI=[2](%),
                                          LGI=[63](m), MNI=[0.013], SCI=[0](min),
                     RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|-------------------------------------------------------------|
ADD HYD              IDsum=[3], NHYD=["POOL1"], IDs to add=[4,2]
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
ROUTE RESERVOIR      IDout=[6],   NHYD=["POOL"],  IDin=[3],
                     RDT=[1](min),
                           TABLE of ( OUTFLOW-STORAGE ) values
                                       (cms) - (ha-m)
                                     [ 0.0 ,    0.0]
                                     [ 0.012,  0.126]
                                     [ 0.024,  0.189]
                                     [ 0.042,  0.251]
                                     [ 0.117,  0.440]
                                     [ 0.215,  0.564]
                                     [ 0.292,  0.652]
                                     [ 0.376,  0.743]
                                     [ 0.514,  0.887]
                                     [ 0.949,  1.317]
                                     [ 1.009,  1.339]
                                     [ 1.105,  1.360]
                                     [   -1  ,  -1  ]  (max twenty pts)
                           IDovf=[7], NHYDovf=["OVF1"]
*#-----------------|-------------------------------------------------------------|
CALIB STANDHYD       ID=[10], NHYD=["UNC-2"], DT=[1](min), AREA=[1.5](ha),
                     XIMP=[0.075], TIMP=[0.221], DWF=[0](cms), LOSS=[2],
```

```
                     SCS curve number CN=[79],
                     Pervious   surfaces: IAper=[5](mm), SLPP=[2](%),
                                          LGP=[65](m), MNP=[0.25], SCP=[0](min),
                     Impervious surfaces: IAimp=[2](mm), SLPI=[0.5](%),
                                          LGI=[100](m), MNI=[0.013], SCI=[0](min),
                     RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|--------------------------------------------------------------|
CALIB NASHYD         ID=[4], NHYD=["UNC-3"], DT=[1]min, AREA=[2.0](ha),
                     DWF=[0](cms),  CN/C=[75.3], IA=[8.57](mm),
                     N=[3], TP=[0.05]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|--------------------------------------------------------------|
*#-----------------|--------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 900mm CULVERT-----|
*#-----------------|--------------------------------------------------------------|
ADD HYD              IDsum=[2], NHYD=["900mm"], IDs to add=[4,6,7,10]
*#-----------------|--------------------------------------------------------------|
*#-----------------|--------------------------------------------------------------|
*#-----------------|-----------OUTLET C-------------------------------------------|
*#-----------------|--------------------------------------------------------------|
CALIB NASHYD         ID=[4], NHYD=["EXT-4"], DT=[1]min, AREA=[2.6](ha),
                     DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                     N=[3], TP=[0.13]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|--------------------------------------------------------------|
CALIB NASHYD         ID=[5], NHYD=["EXT-5"], DT=[1]min, AREA=[5.2](ha),
                     DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                     N=[3], TP=[0.11]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|--------------------------------------------------------------|
CALIB NASHYD         ID=[8], NHYD=["INT-5"], DT=[1]min, AREA=[0.1](ha),
                     DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                     N=[3], TP=[0.05]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|--------------------------------------------------------------|
*#-----------------|--------------------------------------------------------------|
*#-----------------|-------THE ADD HYD MODELS FLOW TO WC21A--------------------|
*#-----------------|--------------------------------------------------------------|
ADD HYD              IDsum=[6], NHYD=["EXT4_5"], IDs to add=[4,5,8]
*#-----------------|--------------------------------------------------------------|
ROUTE CHANNEL        IDout=[5], NHYD=["WC21A"], IDin=[6],
                     RDT=[1](min),
                     CHLGTH=[730](m),  CHSLOPE=[5.5](%),
                                        FPSLOPE=[5.5](%),
                     SECNUM=[1.1],       NSEG=[3]
                     ( SEGROUGH, SEGDIST (m))=[0.07,4.8 -0.07,19.0 0.07,41] NSEG times
                     ( DISTANCE (m), ELEVATION (m))=[0,220]
                                                     [4.8,217.5]
                                                     [19.0,215]
                                                     [34,217.5]
                                                     [41,220]
*#-----------------|--------------------------------------------------------------|
CALIB NASHYD         ID=[4], NHYD=["UNC-4"], DT=[1]min, AREA=[3.10](ha),
                     DWF=[0](cms),  CN/C=[36.7], IA=[9.01](mm),
                     N=[3], TP=[0.30]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|--------------------------------------------------------------|
*#-----------------|-------THE ADD HYD MODELS FLOW TO WC21A AT SITE------------|
*#-----------------|--------------------------------------------------------------|
ADD HYD              IDsum=[3], NHYD=["EXT_UNC"], IDs to add=[5,4]
*#-----------------|--------------------------------------------------------------|
*#-----------------|--------------------------------------------------------------|
CALIB NASHYD         ID=[7], NHYD=["Ext-6"], DT=[1]min, AREA=[6.0](ha),
                     DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                     N=[3], TP=[0.39]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|--------------------------------------------------------------|
CALIB NASHYD         ID=[9], NHYD=["Ext-7"], DT=[1]min, AREA=[6.0](ha),
                     DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                     N=[3], TP=[0.19]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|--------------------------------------------------------------|
CALIB NASHYD         ID=[10], NHYD=["Ext-8"], DT=[1]min, AREA=[13.1](ha),
                     DWF=[0](cms),  CN/C=[75.2], IA=[8.74](mm),
                     N=[3], TP=[0.40]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|--------------------------------------------------------------|
*#-----------------|--------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS SUBWATERSHED FLOW---------------|
*#-----------------|--------------------------------------------------------------|
ADD HYD              IDsum=[4], NHYD=["NE_DITCH"], IDs to add=[7,3,9,10]
*#-----------------|--------------------------------------------------------------|
CALIB NASHYD         ID=[6], NHYD=["Ext-9"], DT=[1]min, AREA=[7.0](ha),
                     DWF=[0](cms),  CN/C=[76.8], IA=[8.06](mm),
                     N=[3], TP=[0.34]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|--------------------------------------------------------------|
*#-----------------|--------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS Subwatershed 21A Outflow--------|
*#-----------------|--------------------------------------------------------------|
*#-----------------|--------------------------------------------------------------|
ADD HYD              IDsum=[5], NHYD=["21A"], IDs to add=[4,6]
*#-----------------|--------------------------------------------------------------|
CALIB NASHYD         ID=[4], NHYD=["Ext-10A"], DT=[1]min, AREA=[27.9](ha),
                     DWF=[0](cms),  CN/C=[56.0], IA=[8.70](mm),
                     N=[3], TP=[0.20]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|--------------------------------------------------------------|
CALIB NASHYD         ID=[3], NHYD=["Ext-11"], DT=[1]min, AREA=[3.9](ha),
                     DWF=[0](cms),  CN/C=[72.9], IA=[7.96](mm),
                     N=[3], TP=[0.08]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|--------------------------------------------------------------|
CALIB NASHYD         ID=[6], NHYD=["Ext-12"], DT=[1]min, AREA=[5.2](ha),
                     DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                     N=[3], TP=[0.18]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|--------------------------------------------------------------|
*#-----------------|--------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO EX. STORAGE AREA------|
*#-----------------|--------------------------------------------------------------|
*#-----------------|--------------------------------------------------------------|
ADD HYD              IDsum=[5], NHYD=["WET-STO"], IDs to add=[1,2,4,3,6]
*#-----------------|--------------------------------------------------------------|
ROUTE RESERVOIR      IDout=[4],   NHYD=["22"],  IDin=[5],
                     RDT=[1](min),
                           TABLE of ( OUTFLOW-STORAGE ) values
                                       (cms) - (ha-m)
                                     [   0.0 ,  0.0 ]
                                     [   0.0102 ,  0.002 ]
                                     [   0.04230 ,  0.004 ]
                                     [   0.0939 ,  0.006 ]
                                     [   0.1286 ,  0.008 ]
                                     [   0.16330 ,  0.045 ]
                                     [   0.2489 ,  0.262 ]
                                     [   0.3488 ,  0.622 ]
                                     [   0.4601 ,  1.088 ]
                                     [   0.51955 ,  1.623 ]
                                     [   0.579 ,  1.925 ]
                                     [   0.7014 ,  2.253 ]
                                     [   0.8216 ,  2.951 ]
                                     [   0.9345 ,  3.689 ]
                                     [   -1  ,  -1  ]  (max twenty pts)
                           IDovf=[6], NHYDovf=["OVF"]
*#-----------------|--------------------------------------------------------------|
CALIB NASHYD         ID=[3], NHYD=["Ext-10B"], DT=[1]min, AREA=[4.9](ha),
                     DWF=[0](cms),  CN/C=[54.6], IA=[6.15](mm),
                     N=[3], TP=[0.17]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|--------------------------------------------------------------|
*#-----------------|--------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS SUBWATERSHED 22 OUTFLOW --------|
*#-----------------|--------------------------------------------------------------|
*#-----------------|--------------------------------------------------------------|
ADD HYD              IDsum=[5], NHYD=["22"], IDs to add=[3,4,6]
*%-----------------|--------------------------------------------------------------|

*#-----------------|--------------------------------------------------------------|
*#-----------------|----------10YR SCS----------------------------------------|
*#-----------------|--------------------------------------------------------------|
MASS STORM           PTOTAL=[72.0](mm), CSDT=[1](min),
                     CURVE_FILENAME=["SCS24HII.mst"]
*%-----------------|--------------------------------------------------------------|
*#-----------------|--------------------------------------------------------------|
*#-----------------|-----------------POST-DEVELOPMENT-------------------------|
*#-----------------|--------------------------------------------------------------|
*#-----------------|---------------------OUTLET A-------------------------------|
*#-----------------|--------------------------------------------------------------|
CALIB NASHYD         ID=[2], NHYD=["EXT-1"], DT=[1]min, AREA=[3.5](ha),
                     DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                     N=[3], TP=[0.13]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|--------------------------------------------------------------|
CALIB NASHYD         ID=[3], NHYD=["INT-3"], DT=[1]min, AREA=[0.2](ha),
                     DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                     N=[3], TP=[0.05]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|--------------------------------------------------------------|
CALIB NASHYD         ID=[4], NHYD=["UNC-1"], DT=[1]min, AREA=[0.8](ha),
                     DWF=[0](cms),  CN/C=[82], IA=[4.52](mm),
                     N=[3], TP=[0.28]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|--------------------------------------------------------------|
*#-----------------|--------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 825mm CULVERT     |
*#-----------------|--------------------------------------------------------------|
ADD HYD              IDsum=[1], NHYD=["825mm"], IDs to add=[2,3,4]
*#-----------------|--------------------------------------------------------------|
*#-----------------|--------------------------------------------------------------|
*#-----------------|----------OUTLET B-------------------------------------------|
*#-----------------|--------------------------------------------------------------|
CALIB NASHYD         ID=[5], NHYD=["EXT-2"], DT=[1]min, AREA=[4.1](ha),
                     DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                     N=[3], TP=[0.12]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|--------------------------------------------------------------|
CALIB NASHYD         ID=[8], NHYD=["EXT-3"], DT=[1]min, AREA=[2.2](ha),
                     DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                     N=[3], TP=[0.13]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|--------------------------------------------------------------|
CALIB STANDHYD       ID=[6], NHYD=["INT-2"], DT=[1](min), AREA=[3](ha),
                     XIMP=[0.15], TIMP=[0.31], DWF=[0](cms), LOSS=[2],
                     SCS curve number CN=[79],
                     Pervious   surfaces: IAper=[5](mm), SLPP=[2](%),
                                          LGP=[65](m), MNP=[0.25], SCP=[0](min),
                     Impervious surfaces: IAimp=[2](mm), SLPI=[0.5](%),
                                          LGI=[141](m), MNI=[0.013], SCI=[0](min),
                     RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|--------------------------------------------------------------|
CALIB NASHYD         ID=[7], NHYD=["INT-4"], DT=[1]min, AREA=[0.6](ha),
                     DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                     N=[3], TP=[0.05]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|--------------------------------------------------------------|
CALIB STANDHYD       ID=[9], NHYD=["INT-1"], DT=[1](min), AREA=[8.60](ha),
                     XIMP=[0.168], TIMP=[0.431], DWF=[0](cms), LOSS=[2],
                     SCS curve number CN=[79],
                     Pervious   surfaces: IAper=[5](mm), SLPP=[2](%),
                                          LGP=[65](m), MNP=[0.25], SCP=[0](min),
                     Impervious surfaces: IAimp=[2](mm), SLPI=[0.5](%),
                                          LGI=[239](m), MNI=[0.013], SCI=[0](min),
                     RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|--------------------------------------------------------------|
*#-----------------|--------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE SWMF--------------|
*#-----------------|--------------------------------------------------------------|
*#-----------------|--------------------------------------------------------------|
ADD HYD              IDsum=[4], NHYD=["POOL1INT"], IDs to add=[5,8,6,7,9]
*#-----------------|--------------------------------------------------------------|
CALIB STANDHYD       ID=[2], NHYD=["SWMF"], DT=[1](min), AREA=[0.8](ha),
                     XIMP=[0.5], TIMP=[0.5], DWF=[0](cms), LOSS=[2],
                     SCS curve number CN=[79],
                     Pervious   surfaces: IAper=[5](mm), SLPP=[2](%),
                                          LGP=[20](m), MNP=[0.25], SCP=[0](min),
                     Impervious surfaces: IAimp=[2](mm), SLPI=[2](%),
                                          LGI=[63](m), MNI=[0.013], SCI=[0](min),
                     RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|--------------------------------------------------------------|
ADD HYD              IDsum=[3], NHYD=["POOL1"], IDs to add=[4,2]
*#-----------------|--------------------------------------------------------------|
*#-----------------|--------------------------------------------------------------|
ROUTE RESERVOIR      IDout=[6],   NHYD=["POOL"],  IDin=[3],
                     RDT=[1](min),
                           TABLE of ( OUTFLOW-STORAGE ) values
                                       (cms) - (ha-m)
                                     [ 0.0 ,    0.0]
                                     [ 0.012,  0.126]
                                     [ 0.024,  0.189]
                                     [ 0.042,  0.251]
                                     [ 0.117,  0.440]
                                     [ 0.215,  0.564]
                                     [ 0.292,  0.652]
                                     [ 0.376,  0.743]
                                     [ 0.514,  0.887]
                                     [ 0.949,  1.317]
                                     [ 1.009,  1.339]
                                     [ 1.105,  1.360]
                                     [   -1  ,  -1  ]  (max twenty pts)
                           IDovf=[7], NHYDovf=["OVF1"]
*#-----------------|--------------------------------------------------------------|
CALIB STANDHYD       ID=[10], NHYD=["UNC-2"], DT=[1](min), AREA=[1.5](ha),
                     XIMP=[0.075], TIMP=[0.221], DWF=[0](cms), LOSS=[2],
                     SCS curve number CN=[79],
                     Pervious   surfaces: IAper=[5](mm), SLPP=[2](%),
                                          LGP=[65](m), MNP=[0.25], SCP=[0](min),
                     Impervious surfaces: IAimp=[2](mm), SLPI=[0.5](%),
                                          LGI=[100](m), MNI=[0.013], SCI=[0](min),
                     RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|--------------------------------------------------------------|
CALIB NASHYD         ID=[4], NHYD=["UNC-3"], DT=[1]min, AREA=[2.0](ha),
                     DWF=[0](cms),  CN/C=[75.3], IA=[8.57](mm),
                     N=[3], TP=[0.05]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|--------------------------------------------------------------|
*#-----------------|--------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 900mm CULVERT-----|
*#-----------------|--------------------------------------------------------------|
ADD HYD              IDsum=[2], NHYD=["900mm"], IDs to add=[4,6,7,10]
*#-----------------|--------------------------------------------------------------|
*#-----------------|--------------------------------------------------------------|
*#-----------------|-----------OUTLET C-------------------------------------------|
*#-----------------|--------------------------------------------------------------|
CALIB NASHYD         ID=[4], NHYD=["EXT-4"], DT=[1]min, AREA=[2.6](ha),
                     DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                     N=[3], TP=[0.13]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|--------------------------------------------------------------|
CALIB NASHYD         ID=[5], NHYD=["EXT-5"], DT=[1]min, AREA=[5.2](ha),
                     DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                     N=[3], TP=[0.11]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|--------------------------------------------------------------|
CALIB NASHYD         ID=[8], NHYD=["INT-5"], DT=[1]min, AREA=[0.1](ha),
                     DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                     N=[3], TP=[0.05]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|--------------------------------------------------------------|
*#-----------------|--------------------------------------------------------------|
*#-----------------|-------THE ADD HYD MODELS FLOW TO WC21A--------------------|
*#-----------------|--------------------------------------------------------------|
ADD HYD              IDsum=[6], NHYD=["EXT4_5"], IDs to add=[4,5,8]
*#-----------------|--------------------------------------------------------------|
ROUTE CHANNEL        IDout=[5], NHYD=["WC21A"], IDin=[6],
                     RDT=[1](min),
                     CHLGTH=[730](m),  CHSLOPE=[5.5](%),
                                        FPSLOPE=[5.5](%),
                     SECNUM=[1.1],       NSEG=[3]
                     ( SEGROUGH, SEGDIST (m))=[0.07,4.8 -0.07,19.0 0.07,41] NSEG times
                     ( DISTANCE (m), ELEVATION (m))=[0,220]
                                                     [4.8,217.5]
                                                     [19.0,215]
                                                     [34,217.5]
                                                     [41,220]
*#-----------------|--------------------------------------------------------------|
CALIB NASHYD         ID=[4], NHYD=["UNC-4"], DT=[1]min, AREA=[3.10](ha),
                     DWF=[0](cms),  CN/C=[36.7], IA=[9.01](mm),
                     N=[3], TP=[0.30]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|--------------------------------------------------------------|
*#-----------------|-------THE ADD HYD MODELS FLOW TO WC21A AT SITE------------|
*#-----------------|--------------------------------------------------------------|
ADD HYD              IDsum=[3], NHYD=["EXT_UNC"], IDs to add=[5,4]
*#-----------------|--------------------------------------------------------------|
*#-----------------|--------------------------------------------------------------|
CALIB NASHYD         ID=[7], NHYD=["Ext-6"], DT=[1]min, AREA=[6.0](ha),
                     DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                     N=[3], TP=[0.39]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|--------------------------------------------------------------|
CALIB NASHYD         ID=[9], NHYD=["Ext-7"], DT=[1]min, AREA=[6.0](ha),
                     DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                     N=[3], TP=[0.19]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|--------------------------------------------------------------|
CALIB NASHYD         ID=[10], NHYD=["Ext-8"], DT=[1]min, AREA=[13.1](ha),
                     DWF=[0](cms),  CN/C=[75.2], IA=[8.74](mm),
                     N=[3], TP=[0.40]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|--------------------------------------------------------------|
*#-----------------|--------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS SUBWATERSHED FLOW---------------|
*#-----------------|--------------------------------------------------------------|
ADD HYD              IDsum=[4], NHYD=["NE_DITCH"], IDs to add=[7,3,9,10]
*#-----------------|--------------------------------------------------------------|
CALIB NASHYD         ID=[6], NHYD=["Ext-9"], DT=[1]min, AREA=[7.0](ha),
                     DWF=[0](cms),  CN/C=[76.8], IA=[8.06](mm),
                     N=[3], TP=[0.34]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|--------------------------------------------------------------|
*#-----------------|--------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS Subwatershed 21A Outflow--------|
*#-----------------|--------------------------------------------------------------|
*#-----------------|--------------------------------------------------------------|
ADD HYD              IDsum=[5], NHYD=["21A"], IDs to add=[4,6]
*#-----------------|--------------------------------------------------------------|
CALIB NASHYD         ID=[4], NHYD=["Ext-10A"], DT=[1]min, AREA=[27.9](ha),
                     DWF=[0](cms),  CN/C=[56.0], IA=[8.70](mm),
                     N=[3], TP=[0.20]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|--------------------------------------------------------------|
CALIB NASHYD         ID=[3], NHYD=["Ext-11"], DT=[1]min, AREA=[3.9](ha),
                     DWF=[0](cms),  CN/C=[72.9], IA=[7.96](mm),
                     N=[3], TP=[0.08]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|--------------------------------------------------------------|
CALIB NASHYD         ID=[6], NHYD=["Ext-12"], DT=[1]min, AREA=[5.2](ha),
                     DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                     N=[3], TP=[0.18]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|--------------------------------------------------------------|
*#-----------------|--------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO EX. STORAGE AREA------|
*#-----------------|--------------------------------------------------------------|
*#-----------------|--------------------------------------------------------------|
ADD HYD              IDsum=[5], NHYD=["WET-STO"], IDs to add=[1,2,4,3,6]
*#-----------------|--------------------------------------------------------------|
ROUTE RESERVOIR      IDout=[4],   NHYD=["22"],  IDin=[5],
```

```
                        RDT=[1](min),
                              TABLE of ( OUTFLOW-STORAGE ) values
                                          (cms) - (ha-m)
                                        [   0.0 ,  0.0 ]
                                        [   0.0102 ,  0.002 ]
                                        [   0.04230 ,  0.004 ]
                                        [   0.0939 ,  0.006 ]
                                        [   0.1286 ,  0.008 ]
                                        [   0.16330 ,  0.045 ]
                                        [   0.2489 ,  0.262 ]
                                        [   0.3488 ,  0.622 ]
                                        [   0.4601 ,  1.088 ]
                                        [   0.51955 ,  1.623 ]
                                        [   0.579 ,  1.925 ]
                                        [   0.7014 ,  2.253 ]
                                        [   0.8216 ,  2.951 ]
                                        [   0.9345 ,  3.689 ]
                                        [   -1  ,  -1  ]  (max twenty pts)
                              IDovf=[6], NHYDovf=["OVF"]
*#-----------------|------------------------------------------------------------|
CALIB NASHYD            ID=[3], NHYD=["Ext-10B"], DT=[1]min, AREA=[4.9](ha),
                        DWF=[0](cms),  CN/C=[54.6], IA=[6.15](mm),
                        N=[3], TP=[0.17]hrs,
                        RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|------------------------------------------------------------|
*#-----------------|------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS SUBWATERSHED 22 OUTFLOW --------|
*#-----------------|------------------------------------------------------------|
*#-----------------|------------------------------------------------------------|
ADD HYD                 IDsum=[5], NHYD=["22"], IDs to add=[3,4,6]
*%-----------------|------------------------------------------------------------|




*#-----------------|------------------------------------------------------------|
*#-----------------|----------25YR SCS------------------------------------------|
*#-----------------|------------------------------------------------------------|
MASS STORM              PTOTAL=[86.4](mm), CSDT=[1](min),
                        CURVE_FILENAME=["SCS24HII.mst"]
*%-----------------|------------------------------------------------------------|
*#-----------------|------------------------------------------------------------|
*#-----------------|-----------------POST-DEVELOPMENT---------------------------|
*#-----------------|------------------------------------------------------------|
*#-----------------|---------------------OUTLET A-------------------------------|
*#-----------------|------------------------------------------------------------|
CALIB NASHYD            ID=[2], NHYD=["EXT-1"], DT=[1]min, AREA=[3.5](ha),
                        DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                        N=[3], TP=[0.13]hrs,
                        RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|------------------------------------------------------------|
CALIB NASHYD            ID=[3], NHYD=["INT-3"], DT=[1]min, AREA=[0.2](ha),
                        DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                        N=[3], TP=[0.05]hrs,
                        RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|------------------------------------------------------------|
CALIB NASHYD            ID=[4], NHYD=["UNC-1"], DT=[1]min, AREA=[0.8](ha),
                        DWF=[0](cms),  CN/C=[82], IA=[4.52](mm),
                        N=[3], TP=[0.28]hrs,
                        RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|------------------------------------------------------------|
*#-----------------|------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 825mm CULVERT     |
*#-----------------|------------------------------------------------------------|
ADD HYD                 IDsum=[1], NHYD=["825mm"], IDs to add=[2,3,4]
*#-----------------|------------------------------------------------------------|
*#-----------------|------------------------------------------------------------|
*#-----------------|-----------OUTLET B-----------------------------------------|
*#-----------------|------------------------------------------------------------|
CALIB NASHYD            ID=[5], NHYD=["EXT-2"], DT=[1]min, AREA=[4.1](ha),
                        DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                        N=[3], TP=[0.12]hrs,
                        RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|------------------------------------------------------------|
CALIB NASHYD            ID=[8], NHYD=["EXT-3"], DT=[1]min, AREA=[2.2](ha),
                        DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                        N=[3], TP=[0.13]hrs,
                        RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|------------------------------------------------------------|
CALIB STANDHYD          ID=[6], NHYD=["INT-2"], DT=[1](min), AREA=[3](ha),
                        XIMP=[0.15], TIMP=[0.31], DWF=[0](cms), LOSS=[2],
                        SCS curve number CN=[79],
                        Pervious   surfaces: IAper=[5](mm), SLPP=[2](%),
                                             LGP=[65](m), MNP=[0.25], SCP=[0](min),
                        Impervious surfaces: IAimp=[2](mm), SLPI=[0.5](%),
                                             LGI=[141](m), MNI=[0.013], SCI=[0](min),
                        RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|------------------------------------------------------------|
CALIB NASHYD            ID=[7], NHYD=["INT-4"], DT=[1]min, AREA=[0.6](ha),
                        DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                        N=[3], TP=[0.05]hrs,
                        RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|------------------------------------------------------------|
CALIB STANDHYD          ID=[9], NHYD=["INT-1"], DT=[1](min), AREA=[8.60](ha),
                        XIMP=[0.168], TIMP=[0.431], DWF=[0](cms), LOSS=[2],
                        SCS curve number CN=[79],
                        Pervious   surfaces: IAper=[5](mm), SLPP=[2](%),
                                             LGP=[65](m), MNP=[0.25], SCP=[0](min),
                        Impervious surfaces: IAimp=[2](mm), SLPI=[0.5](%),
                                             LGI=[239](m), MNI=[0.013], SCI=[0](min),
                        RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|------------------------------------------------------------|
*#-----------------|------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE SWMF--------------|
*#-----------------|------------------------------------------------------------|
*#-----------------|------------------------------------------------------------|
ADD HYD                 IDsum=[4], NHYD=["POOL1INT"], IDs to add=[5,8,6,7,9]
*#-----------------|------------------------------------------------------------|
CALIB STANDHYD          ID=[2], NHYD=["SWMF"], DT=[1](min), AREA=[0.8](ha),
                        XIMP=[0.5], TIMP=[0.5], DWF=[0](cms), LOSS=[2],
                        SCS curve number CN=[79],
                        Pervious   surfaces: IAper=[5](mm), SLPP=[2](%),
                                             LGP=[20](m), MNP=[0.25], SCP=[0](min),
                        Impervious surfaces: IAimp=[2](mm), SLPI=[2](%),
                                             LGI=[63](m), MNI=[0.013], SCI=[0](min),
                        RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|------------------------------------------------------------|
ADD HYD                 IDsum=[3], NHYD=["POOL1"], IDs to add=[4,2]
*#-----------------|------------------------------------------------------------|
*#-----------------|------------------------------------------------------------|
ROUTE RESERVOIR         IDout=[6],   NHYD=["POOL"],  IDin=[3],
                        RDT=[1](min),
                              TABLE of ( OUTFLOW-STORAGE ) values
                                          (cms) - (ha-m)
                                        [ 0.0 ,    0.0]
                                        [ 0.012,  0.126]
                                        [ 0.024,  0.189]
                                        [ 0.042,  0.251]
                                        [ 0.117,  0.440]
                                        [ 0.215,  0.564]
                                        [ 0.292,  0.652]
                                        [ 0.376,  0.743]
                                        [ 0.514,  0.887]
                                        [ 0.949,  1.317]
                                        [ 1.009,  1.339]
                                        [ 1.105,  1.360]
                                        [   -1  ,  -1  ]  (max twenty pts)
                              IDovf=[7], NHYDovf=["OVF1"]
*#-----------------|------------------------------------------------------------|
CALIB STANDHYD          ID=[10], NHYD=["UNC-2"], DT=[1](min), AREA=[1.5](ha),
                        XIMP=[0.075], TIMP=[0.221], DWF=[0](cms), LOSS=[2],
                        SCS curve number CN=[79],
                        Pervious   surfaces: IAper=[5](mm), SLPP=[2](%),
                                             LGP=[65](m), MNP=[0.25], SCP=[0](min),
                        Impervious surfaces: IAimp=[2](mm), SLPI=[0.5](%),
                                             LGI=[100](m), MNI=[0.013], SCI=[0](min),
                        RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|------------------------------------------------------------|
CALIB NASHYD            ID=[4], NHYD=["UNC-3"], DT=[1]min, AREA=[2.0](ha),
                        DWF=[0](cms),  CN/C=[75.3], IA=[8.57](mm),
                        N=[3], TP=[0.05]hrs,
                        RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|------------------------------------------------------------|
*#-----------------|------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 900mm CULVERT-----|
*#-----------------|------------------------------------------------------------|
ADD HYD                 IDsum=[2], NHYD=["900mm"], IDs to add=[4,6,7,10]
*#-----------------|------------------------------------------------------------|
*#-----------------|------------------------------------------------------------|
*#-----------------|-----------OUTLET C-----------------------------------------|
*#-----------------|------------------------------------------------------------|
CALIB NASHYD            ID=[4], NHYD=["EXT-4"], DT=[1]min, AREA=[2.6](ha),
                        DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                        N=[3], TP=[0.13]hrs,
                        RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|------------------------------------------------------------|
CALIB NASHYD            ID=[5], NHYD=["EXT-5"], DT=[1]min, AREA=[5.2](ha),
                        DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                        N=[3], TP=[0.11]hrs,
                        RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|------------------------------------------------------------|
CALIB NASHYD            ID=[8], NHYD=["INT-5"], DT=[1]min, AREA=[0.1](ha),
                        DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                        N=[3], TP=[0.05]hrs,
                        RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|------------------------------------------------------------|
*#-----------------|------------------------------------------------------------|
*#-----------------|-------THE ADD HYD MODELS FLOW TO WC21A-------------------|
*#-----------------|------------------------------------------------------------|
ADD HYD                 IDsum=[6], NHYD=["EXT4_5"], IDs to add=[4,5,8]
*#-----------------|------------------------------------------------------------|
ROUTE CHANNEL           IDout=[5], NHYD=["WC21A"], IDin=[6],
                        RDT=[1](min),
                        CHLGTH=[730](m),  CHSLOPE=[5.5](%),
                                          FPSLOPE=[5.5](%),
                        SECNUM=[1.1],     NSEG=[3]
                        ( SEGROUGH, SEGDIST (m))=[0.07,4.8 -0.07,19.0 0.07,41] NSEG times
                        ( DISTANCE (m), ELEVATION (m))=[0,220]
                                                        [4.8,217.5]
                                                        [19.0,215]
                                                        [34,217.5]
                                                        [41,220]
*#-----------------|------------------------------------------------------------|
CALIB NASHYD            ID=[4], NHYD=["UNC-4"], DT=[1]min, AREA=[3.10](ha),
                        DWF=[0](cms),  CN/C=[36.7], IA=[9.01](mm),
                        N=[3], TP=[0.30]hrs,
                        RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|------------------------------------------------------------|
*#-----------------|-------THE ADD HYD MODELS FLOW TO WC21A AT SITE------------|
*#-----------------|------------------------------------------------------------|
ADD HYD                 IDsum=[3], NHYD=["EXT_UNC"], IDs to add=[5,4]
*#-----------------|------------------------------------------------------------|
*#-----------------|------------------------------------------------------------|
CALIB NASHYD            ID=[7], NHYD=["Ext-6"], DT=[1]min, AREA=[6.0](ha),
                        DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                        N=[3], TP=[0.39]hrs,
                        RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|------------------------------------------------------------|
CALIB NASHYD            ID=[9], NHYD=["Ext-7"], DT=[1]min, AREA=[6.0](ha),
                        DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                        N=[3], TP=[0.19]hrs,
                        RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|------------------------------------------------------------|
CALIB NASHYD            ID=[10], NHYD=["Ext-8"], DT=[1]min, AREA=[13.1](ha),
                        DWF=[0](cms),  CN/C=[75.2], IA=[8.74](mm),
                        N=[3], TP=[0.40]hrs,
                        RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|------------------------------------------------------------|
*#-----------------|------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS SUBWATERSHED FLOW---------------|
*#-----------------|------------------------------------------------------------|
ADD HYD                 IDsum=[4], NHYD=["NE_DITCH"], IDs to add=[7,3,9,10]
*#-----------------|------------------------------------------------------------|
CALIB NASHYD            ID=[6], NHYD=["Ext-9"], DT=[1]min, AREA=[7.0](ha),
                        DWF=[0](cms),  CN/C=[76.8], IA=[8.06](mm),
                        N=[3], TP=[0.34]hrs,
                        RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|------------------------------------------------------------|
*#-----------------|------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS Subwatershed 21A Outflow--------|
*#-----------------|------------------------------------------------------------|
*#-----------------|------------------------------------------------------------|
ADD HYD                 IDsum=[5], NHYD=["21A"], IDs to add=[4,6]
*#-----------------|------------------------------------------------------------|
CALIB NASHYD            ID=[4], NHYD=["Ext-10A"], DT=[1]min, AREA=[27.9](ha),
                        DWF=[0](cms),  CN/C=[56.0], IA=[8.70](mm),
                        N=[3], TP=[0.20]hrs,
                        RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|------------------------------------------------------------|
CALIB NASHYD            ID=[3], NHYD=["Ext-11"], DT=[1]min, AREA=[3.9](ha),
                        DWF=[0](cms),  CN/C=[72.9], IA=[7.96](mm),
                        N=[3], TP=[0.08]hrs,
                        RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|------------------------------------------------------------|
CALIB NASHYD            ID=[6], NHYD=["Ext-12"], DT=[1]min, AREA=[5.2](ha),
                        DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                        N=[3], TP=[0.18]hrs,
                        RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|------------------------------------------------------------|
*#-----------------|------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO EX. STORAGE AREA------|
*#-----------------|------------------------------------------------------------|
*#-----------------|------------------------------------------------------------|
ADD HYD                 IDsum=[5], NHYD=["WET-STO"], IDs to add=[1,2,4,3,6]
*#-----------------|------------------------------------------------------------|
ROUTE RESERVOIR         IDout=[4],   NHYD=["22"],  IDin=[5],
                        RDT=[1](min),
                              TABLE of ( OUTFLOW-STORAGE ) values
                                          (cms) - (ha-m)
                                        [   0.0 ,  0.0 ]
                                        [   0.0102 ,  0.002 ]
                                        [   0.04230 ,  0.004 ]
                                        [   0.0939 ,  0.006 ]
                                        [   0.1286 ,  0.008 ]
                                        [   0.16330 ,  0.045 ]
                                        [   0.2489 ,  0.262 ]
                                        [   0.3488 ,  0.622 ]
                                        [   0.4601 ,  1.088 ]
                                        [   0.51955 ,  1.623 ]
                                        [   0.579 ,  1.925 ]
                                        [   0.7014 ,  2.253 ]
                                        [   0.8216 ,  2.951 ]
                                        [   0.9345 ,  3.689 ]
                                        [   -1  ,  -1  ]  (max twenty pts)
                              IDovf=[6], NHYDovf=["OVF"]
*#-----------------|------------------------------------------------------------|
CALIB NASHYD            ID=[3], NHYD=["Ext-10B"], DT=[1]min, AREA=[4.9](ha),
                        DWF=[0](cms),  CN/C=[54.6], IA=[6.15](mm),
                        N=[3], TP=[0.17]hrs,
                        RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|------------------------------------------------------------|
*#-----------------|------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS SUBWATERSHED 22 OUTFLOW --------|
*#-----------------|------------------------------------------------------------|
*#-----------------|------------------------------------------------------------|
ADD HYD                 IDsum=[5], NHYD=["22"], IDs to add=[3,4,6]
*%-----------------|------------------------------------------------------------|


*#-----------------|------------------------------------------------------------|
*#-----------------|----------50YR SCS------------------------------------------|
*#-----------------|------------------------------------------------------------|
MASS STORM              PTOTAL=[96.0](mm), CSDT=[1](min),
                        CURVE_FILENAME=["SCS24HII.mst"]
*%-----------------|------------------------------------------------------------|
*#-----------------|------------------------------------------------------------|
*#-----------------|-----------------POST-DEVELOPMENT---------------------------|
*#-----------------|------------------------------------------------------------|
*#-----------------|---------------------OUTLET A-------------------------------|
*#-----------------|------------------------------------------------------------|
CALIB NASHYD            ID=[2], NHYD=["EXT-1"], DT=[1]min, AREA=[3.5](ha),
                        DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                        N=[3], TP=[0.13]hrs,
                        RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|------------------------------------------------------------|
CALIB NASHYD            ID=[3], NHYD=["INT-3"], DT=[1]min, AREA=[0.2](ha),
                        DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                        N=[3], TP=[0.05]hrs,
                        RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|------------------------------------------------------------|
CALIB NASHYD            ID=[4], NHYD=["UNC-1"], DT=[1]min, AREA=[0.8](ha),
                        DWF=[0](cms),  CN/C=[82], IA=[4.52](mm),
                        N=[3], TP=[0.28]hrs,
                        RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|------------------------------------------------------------|
*#-----------------|------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 825mm CULVERT     |
*#-----------------|------------------------------------------------------------|
ADD HYD                 IDsum=[1], NHYD=["825mm"], IDs to add=[2,3,4]
*#-----------------|------------------------------------------------------------|
*#-----------------|------------------------------------------------------------|
*#-----------------|-----------OUTLET B-----------------------------------------|
*#-----------------|------------------------------------------------------------|
CALIB NASHYD            ID=[5], NHYD=["EXT-2"], DT=[1]min, AREA=[4.1](ha),
                        DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                        N=[3], TP=[0.12]hrs,
                        RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|------------------------------------------------------------|
CALIB NASHYD            ID=[8], NHYD=["EXT-3"], DT=[1]min, AREA=[2.2](ha),
                        DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                        N=[3], TP=[0.13]hrs,
                        RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|------------------------------------------------------------|
CALIB STANDHYD          ID=[6], NHYD=["INT-2"], DT=[1](min), AREA=[3](ha),
                        XIMP=[0.15], TIMP=[0.31], DWF=[0](cms), LOSS=[2],
                        SCS curve number CN=[79],
                        Pervious   surfaces: IAper=[5](mm), SLPP=[2](%),
                                             LGP=[65](m), MNP=[0.25], SCP=[0](min),
                        Impervious surfaces: IAimp=[2](mm), SLPI=[0.5](%),
                                             LGI=[141](m), MNI=[0.013], SCI=[0](min),
                        RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|------------------------------------------------------------|
CALIB NASHYD            ID=[7], NHYD=["INT-4"], DT=[1]min, AREA=[0.6](ha),
                        DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                        N=[3], TP=[0.05]hrs,
                        RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|------------------------------------------------------------|
CALIB STANDHYD          ID=[9], NHYD=["INT-1"], DT=[1](min), AREA=[8.60](ha),
                        XIMP=[0.168], TIMP=[0.431], DWF=[0](cms), LOSS=[2],
                        SCS curve number CN=[79],
                        Pervious   surfaces: IAper=[5](mm), SLPP=[2](%),
                                             LGP=[65](m), MNP=[0.25], SCP=[0](min),
                        Impervious surfaces: IAimp=[2](mm), SLPI=[0.5](%),
                                             LGI=[239](m), MNI=[0.013], SCI=[0](min),
                        RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|------------------------------------------------------------|
*#-----------------|------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE SWMF--------------|
*#-----------------|------------------------------------------------------------|
*#-----------------|------------------------------------------------------------|
ADD HYD                 IDsum=[4], NHYD=["POOL1INT"], IDs to add=[5,8,6,7,9]
*#-----------------|------------------------------------------------------------|
CALIB STANDHYD          ID=[2], NHYD=["SWMF"], DT=[1](min), AREA=[0.8](ha),
                        XIMP=[0.5], TIMP=[0.5], DWF=[0](cms), LOSS=[2],
                        SCS curve number CN=[79],
                        Pervious   surfaces: IAper=[5](mm), SLPP=[2](%),
                                             LGP=[20](m), MNP=[0.25], SCP=[0](min),
                        Impervious surfaces: IAimp=[2](mm), SLPI=[2](%),
                                             LGI=[63](m), MNI=[0.013], SCI=[0](min),
                        RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|------------------------------------------------------------|
ADD HYD                 IDsum=[3], NHYD=["POOL1"], IDs to add=[4,2]
*#-----------------|------------------------------------------------------------|
*#-----------------|------------------------------------------------------------|
```

```
ROUTE RESERVOIR     IDout=[6],   NHYD=["POOL"],  IDin=[3],
                    RDT=[1](min),
                        TABLE of ( OUTFLOW-STORAGE ) values
                                (cms) - (ha-m)
                              [ 0.0 ,    0.0]
                              [ 0.012,  0.126]
                              [ 0.024,  0.189]
                              [ 0.042,  0.251]
                              [ 0.117,  0.440]
                              [ 0.215,  0.564]
                              [ 0.292,  0.652]
                              [ 0.376,  0.743]
                              [ 0.514,  0.887]
                              [ 0.949,  1.317]
                              [ 1.009,  1.339]
                              [ 1.105,  1.360]
                              [   -1  ,  -1  ]  (max twenty pts)
                        IDovf=[7], NHYDovf=["OVF1"]
*#-----------------|------------------------------------------------------------|
CALIB STANDHYD      ID=[10], NHYD=["UNC-2"], DT=[1](min), AREA=[1.5](ha),
                    XIMP=[0.075], TIMP=[0.221], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[79],
                    Pervious   surfaces: IAper=[5](mm), SLPP=[2](%),
                                         LGP=[65](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2](mm), SLPI=[0.5](%),
                                         LGI=[100](m), MNI=[0.013], SCI=[0](min),
                    RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|------------------------------------------------------------|
CALIB NASHYD        ID=[4], NHYD=["UNC-3"], DT=[1]min, AREA=[2.0](ha),
                    DWF=[0](cms),  CN/C=[75.3], IA=[8.57](mm),
                    N=[3], TP=[0.05]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|------------------------------------------------------------|
*#-----------------|------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 900mm CULVERT-----|
*#-----------------|------------------------------------------------------------|
ADD HYD             IDsum=[2], NHYD=["900mm"], IDs to add=[4,6,7,10]
*#-----------------|------------------------------------------------------------|
*#-----------------|------------------------------------------------------------|
*#-----------------|-----------OUTLET C-----------------------------------------|
*#-----------------|------------------------------------------------------------|
CALIB NASHYD        ID=[4], NHYD=["EXT-4"], DT=[1]min, AREA=[2.6](ha),
                    DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                    N=[3], TP=[0.13]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|------------------------------------------------------------|
CALIB NASHYD        ID=[5], NHYD=["EXT-5"], DT=[1]min, AREA=[5.2](ha),
                    DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                    N=[3], TP=[0.11]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|------------------------------------------------------------|
CALIB NASHYD        ID=[8], NHYD=["INT-5"], DT=[1]min, AREA=[0.1](ha),
                    DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                    N=[3], TP=[0.05]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|------------------------------------------------------------|
*#-----------------|------------------------------------------------------------|
*#-----------------|-------THE ADD HYD MODELS FLOW TO WC21A--------------------|
*#-----------------|------------------------------------------------------------|
ADD HYD             IDsum=[6], NHYD=["EXT4_5"], IDs to add=[4,5,8]
*#-----------------|------------------------------------------------------------|
ROUTE CHANNEL       IDout=[5], NHYD=["WC21A"], IDin=[6],
                    RDT=[1](min),
                    CHLGTH=[730](m),  CHSLOPE=[5.5](%),
                                        FPSLOPE=[5.5](%),
                    SECNUM=[1.1],       NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=[0.07,4.8 -0.07,19.0 0.07,41] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=[0,220]
                                                   [4.8,217.5]
                                                   [19.0,215]
                                                   [34,217.5]
                                                   [41,220]
*#-----------------|------------------------------------------------------------|
CALIB NASHYD        ID=[4], NHYD=["UNC-4"], DT=[1]min, AREA=[3.10](ha),
                    DWF=[0](cms),  CN/C=[36.7], IA=[9.01](mm),
                    N=[3], TP=[0.30]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|------------------------------------------------------------|
*#-----------------|-------THE ADD HYD MODELS FLOW TO WC21A AT SITE------------|
*#-----------------|------------------------------------------------------------|
ADD HYD             IDsum=[3], NHYD=["EXT_UNC"], IDs to add=[5,4]
*#-----------------|------------------------------------------------------------|
*#-----------------|------------------------------------------------------------|
CALIB NASHYD        ID=[7], NHYD=["Ext-6"], DT=[1]min, AREA=[6.0](ha),
                    DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                    N=[3], TP=[0.39]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|------------------------------------------------------------|
CALIB NASHYD        ID=[9], NHYD=["Ext-7"], DT=[1]min, AREA=[6.0](ha),
                    DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                    N=[3], TP=[0.19]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|------------------------------------------------------------|
CALIB NASHYD        ID=[10], NHYD=["Ext-8"], DT=[1]min, AREA=[13.1](ha),
                    DWF=[0](cms),  CN/C=[75.2], IA=[8.74](mm),
                    N=[3], TP=[0.40]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|------------------------------------------------------------|
*#-----------------|------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS SUBWATERSHED FLOW---------------|
*#-----------------|------------------------------------------------------------|
ADD HYD             IDsum=[4], NHYD=["NE_DITCH"], IDs to add=[7,3,9,10]
*#-----------------|------------------------------------------------------------|
CALIB NASHYD        ID=[6], NHYD=["Ext-9"], DT=[1]min, AREA=[7.0](ha),
                    DWF=[0](cms),  CN/C=[76.8], IA=[8.06](mm),
                    N=[3], TP=[0.34]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|------------------------------------------------------------|
*#-----------------|------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS Subwatershed 21A Outflow--------|
*#-----------------|------------------------------------------------------------|
*#-----------------|------------------------------------------------------------|
ADD HYD             IDsum=[5], NHYD=["21A"], IDs to add=[4,6]
*#-----------------|------------------------------------------------------------|
CALIB NASHYD        ID=[4], NHYD=["Ext-10A"], DT=[1]min, AREA=[27.9](ha),
                    DWF=[0](cms),  CN/C=[56.0], IA=[8.70](mm),
                    N=[3], TP=[0.20]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|------------------------------------------------------------|
CALIB NASHYD        ID=[3], NHYD=["Ext-11"], DT=[1]min, AREA=[3.9](ha),
                    DWF=[0](cms),  CN/C=[72.9], IA=[7.96](mm),
                    N=[3], TP=[0.08]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|------------------------------------------------------------|
CALIB NASHYD        ID=[6], NHYD=["Ext-12"], DT=[1]min, AREA=[5.2](ha),
                    DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                    N=[3], TP=[0.18]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|------------------------------------------------------------|
*#-----------------|------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO EX. STORAGE AREA------|
*#-----------------|------------------------------------------------------------|
*#-----------------|------------------------------------------------------------|
ADD HYD             IDsum=[5], NHYD=["WET-STO"], IDs to add=[1,2,4,3,6]
*#-----------------|------------------------------------------------------------|
ROUTE RESERVOIR     IDout=[4],   NHYD=["22"],  IDin=[5],
                    RDT=[1](min),
                        TABLE of ( OUTFLOW-STORAGE ) values
                                (cms) - (ha-m)
                              [   0.0 ,  0.0 ]
                              [   0.0102 ,  0.002 ]
                              [   0.04230 ,  0.004 ]
                              [   0.0939 ,  0.006 ]
                              [   0.1286 ,  0.008 ]
                              [   0.16330 ,  0.045 ]
                              [   0.2489 ,  0.262 ]
                              [   0.3488 ,  0.622 ]
                              [   0.4601 ,  1.088 ]
                              [   0.51955 ,  1.623 ]
                              [   0.579 ,  1.925 ]
                              [   0.7014 ,  2.253 ]
                              [   0.8216 ,  2.951 ]
                              [   0.9345 ,  3.689 ]
                              [   -1  ,  -1  ]  (max twenty pts)
                        IDovf=[6], NHYDovf=["OVF"]
*#-----------------|------------------------------------------------------------|
CALIB NASHYD        ID=[3], NHYD=["Ext-10B"], DT=[1]min, AREA=[4.9](ha),
                    DWF=[0](cms),  CN/C=[54.6], IA=[6.15](mm),
                    N=[3], TP=[0.17]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|------------------------------------------------------------|
*#-----------------|------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS SUBWATERSHED 22 OUTFLOW --------|
*#-----------------|------------------------------------------------------------|
*#-----------------|------------------------------------------------------------|
ADD HYD             IDsum=[5], NHYD=["22"], IDs to add=[3,4,6]
*%-----------------|------------------------------------------------------------|
*#-----------------|------------------------------------------------------------|
*#-----------------|----------100YR SCS-----------------------------------------|
*#-----------------|------------------------------------------------------------|
MASS STORM          PTOTAL=[108.0](mm), CSDT=[1](min),
                    CURVE_FILENAME=["SCS24HII.mst"]
*%-----------------|------------------------------------------------------------|
*#-----------------|------------------------------------------------------------|
*#-----------------|-----------------POST-DEVELOPMENT--------------------------|
*#-----------------|------------------------------------------------------------|
*#-----------------|---------------------OUTLET A-------------------------------|
*#-----------------|------------------------------------------------------------|
CALIB NASHYD        ID=[2], NHYD=["EXT-1"], DT=[1]min, AREA=[3.5](ha),
                    DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                    N=[3], TP=[0.13]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|------------------------------------------------------------|
CALIB NASHYD        ID=[3], NHYD=["INT-3"], DT=[1]min, AREA=[0.2](ha),
                    DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                    N=[3], TP=[0.05]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|------------------------------------------------------------|
CALIB NASHYD        ID=[4], NHYD=["UNC-1"], DT=[1]min, AREA=[0.8](ha),
                    DWF=[0](cms),  CN/C=[82], IA=[4.52](mm),
                    N=[3], TP=[0.28]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|------------------------------------------------------------|
*#-----------------|------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 825mm CULVERT      |
*#-----------------|------------------------------------------------------------|
ADD HYD             IDsum=[1], NHYD=["825mm"], IDs to add=[2,3,4]
*#-----------------|------------------------------------------------------------|
*#-----------------|------------------------------------------------------------|
*#-----------------|-----------OUTLET B-----------------------------------------|
*#-----------------|------------------------------------------------------------|
CALIB NASHYD        ID=[5], NHYD=["EXT-2"], DT=[1]min, AREA=[4.1](ha),
                    DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                    N=[3], TP=[0.12]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|------------------------------------------------------------|
CALIB NASHYD        ID=[8], NHYD=["EXT-3"], DT=[1]min, AREA=[2.2](ha),
                    DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                    N=[3], TP=[0.13]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|------------------------------------------------------------|
CALIB STANDHYD      ID=[6], NHYD=["INT-2"], DT=[1](min), AREA=[3](ha),
                    XIMP=[0.15], TIMP=[0.31], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[79],
                    Pervious   surfaces: IAper=[5](mm), SLPP=[2](%),
                                         LGP=[65](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2](mm), SLPI=[0.5](%),
                                         LGI=[141](m), MNI=[0.013], SCI=[0](min),
                    RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|------------------------------------------------------------|
CALIB NASHYD        ID=[7], NHYD=["INT-4"], DT=[1]min, AREA=[0.6](ha),
                    DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                    N=[3], TP=[0.05]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|------------------------------------------------------------|
CALIB STANDHYD      ID=[9], NHYD=["INT-1"], DT=[1](min), AREA=[8.60](ha),
                    XIMP=[0.168], TIMP=[0.431], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[79],
                    Pervious   surfaces: IAper=[5](mm), SLPP=[2](%),
                                         LGP=[65](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2](mm), SLPI=[0.5](%),
                                         LGI=[239](m), MNI=[0.013], SCI=[0](min),
                    RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|------------------------------------------------------------|
*#-----------------|------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE SWMF--------------|
*#-----------------|------------------------------------------------------------|
*#-----------------|------------------------------------------------------------|
ADD HYD             IDsum=[4], NHYD=["POOL1INT"], IDs to add=[5,8,6,7,9]
*#-----------------|------------------------------------------------------------|
CALIB STANDHYD      ID=[2], NHYD=["SWMF"], DT=[1](min), AREA=[0.8](ha),
                    XIMP=[0.5], TIMP=[0.5], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[79],
                    Pervious   surfaces: IAper=[5](mm), SLPP=[2](%),
                                         LGP=[20](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2](mm), SLPI=[2](%),
                                         LGI=[63](m), MNI=[0.013], SCI=[0](min),
                    RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|------------------------------------------------------------|
ADD HYD             IDsum=[3], NHYD=["POOL1"], IDs to add=[4,2]
*#-----------------|------------------------------------------------------------|
*#-----------------|------------------------------------------------------------|
ROUTE RESERVOIR     IDout=[6],   NHYD=["POOL"],  IDin=[3],
                    RDT=[1](min),
                        TABLE of ( OUTFLOW-STORAGE ) values
                                (cms) - (ha-m)
                              [ 0.0 ,    0.0]
                              [ 0.012,  0.126]
                              [ 0.024,  0.189]
                              [ 0.042,  0.251]
                              [ 0.117,  0.440]
                              [ 0.215,  0.564]
                              [ 0.292,  0.652]
                              [ 0.376,  0.743]
                              [ 0.514,  0.887]
                              [ 0.949,  1.317]
                              [ 1.009,  1.339]
                              [ 1.105,  1.360]
                              [   -1  ,  -1  ]  (max twenty pts)
                        IDovf=[7], NHYDovf=["OVF1"]
*#-----------------|------------------------------------------------------------|
CALIB STANDHYD      ID=[10], NHYD=["UNC-2"], DT=[1](min), AREA=[1.5](ha),
                    XIMP=[0.075], TIMP=[0.221], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[79],
                    Pervious   surfaces: IAper=[5](mm), SLPP=[2](%),
                                         LGP=[65](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2](mm), SLPI=[0.5](%),
                                         LGI=[100](m), MNI=[0.013], SCI=[0](min),
                    RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|------------------------------------------------------------|
CALIB NASHYD        ID=[4], NHYD=["UNC-3"], DT=[1]min, AREA=[2.0](ha),
                    DWF=[0](cms),  CN/C=[75.3], IA=[8.57](mm),
                    N=[3], TP=[0.05]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|------------------------------------------------------------|
*#-----------------|------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 900mm CULVERT-----|
*#-----------------|------------------------------------------------------------|
ADD HYD             IDsum=[2], NHYD=["900mm"], IDs to add=[4,6,7,10]
*#-----------------|------------------------------------------------------------|
*#-----------------|------------------------------------------------------------|
*#-----------------|-----------OUTLET C-----------------------------------------|
*#-----------------|------------------------------------------------------------|
CALIB NASHYD        ID=[4], NHYD=["EXT-4"], DT=[1]min, AREA=[2.6](ha),
                    DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                    N=[3], TP=[0.13]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|------------------------------------------------------------|
CALIB NASHYD        ID=[5], NHYD=["EXT-5"], DT=[1]min, AREA=[5.2](ha),
                    DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                    N=[3], TP=[0.11]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|------------------------------------------------------------|
CALIB NASHYD        ID=[8], NHYD=["INT-5"], DT=[1]min, AREA=[0.1](ha),
                    DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                    N=[3], TP=[0.05]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|------------------------------------------------------------|
*#-----------------|------------------------------------------------------------|
*#-----------------|-------THE ADD HYD MODELS FLOW TO WC21A--------------------|
*#-----------------|------------------------------------------------------------|
ADD HYD             IDsum=[6], NHYD=["EXT4_5"], IDs to add=[4,5,8]
*#-----------------|------------------------------------------------------------|
ROUTE CHANNEL       IDout=[5], NHYD=["WC21A"], IDin=[6],
                    RDT=[1](min),
                    CHLGTH=[730](m),  CHSLOPE=[5.5](%),
                                        FPSLOPE=[5.5](%),
                    SECNUM=[1.1],       NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=[0.07,4.8 -0.07,19.0 0.07,41] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=[0,220]
                                                   [4.8,217.5]
                                                   [19.0,215]
                                                   [34,217.5]
                                                   [41,220]
*#-----------------|------------------------------------------------------------|
CALIB NASHYD        ID=[4], NHYD=["UNC-4"], DT=[1]min, AREA=[3.10](ha),
                    DWF=[0](cms),  CN/C=[36.7], IA=[9.01](mm),
                    N=[3], TP=[0.30]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|------------------------------------------------------------|
*#-----------------|-------THE ADD HYD MODELS FLOW TO WC21A AT SITE------------|
*#-----------------|------------------------------------------------------------|
ADD HYD             IDsum=[3], NHYD=["EXT_UNC"], IDs to add=[5,4]
*#-----------------|------------------------------------------------------------|
*#-----------------|------------------------------------------------------------|
CALIB NASHYD        ID=[7], NHYD=["Ext-6"], DT=[1]min, AREA=[6.0](ha),
                    DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                    N=[3], TP=[0.39]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|------------------------------------------------------------|
CALIB NASHYD        ID=[9], NHYD=["Ext-7"], DT=[1]min, AREA=[6.0](ha),
                    DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                    N=[3], TP=[0.19]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|------------------------------------------------------------|
CALIB NASHYD        ID=[10], NHYD=["Ext-8"], DT=[1]min, AREA=[13.1](ha),
                    DWF=[0](cms),  CN/C=[75.2], IA=[8.74](mm),
                    N=[3], TP=[0.40]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|------------------------------------------------------------|
*#-----------------|------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS SUBWATERSHED FLOW---------------|
*#-----------------|------------------------------------------------------------|
ADD HYD             IDsum=[4], NHYD=["NE_DITCH"], IDs to add=[7,3,9,10]
*#-----------------|------------------------------------------------------------|
CALIB NASHYD        ID=[6], NHYD=["Ext-9"], DT=[1]min, AREA=[7.0](ha),
                    DWF=[0](cms),  CN/C=[76.8], IA=[8.06](mm),
                    N=[3], TP=[0.34]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|------------------------------------------------------------|
*#-----------------|------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS Subwatershed 21A Outflow--------|
*#-----------------|------------------------------------------------------------|
*#-----------------|------------------------------------------------------------|
ADD HYD             IDsum=[5], NHYD=["21A"], IDs to add=[4,6]
*#-----------------|------------------------------------------------------------|
CALIB NASHYD        ID=[4], NHYD=["Ext-10A"], DT=[1]min, AREA=[27.9](ha),
                    DWF=[0](cms),  CN/C=[56.0], IA=[8.70](mm),
```

```
                      N=[3], TP=[0.20]hrs,
                      RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|------------------------------------------------------------|
CALIB NASHYD          ID=[3], NHYD=["Ext-11"], DT=[1]min, AREA=[3.9](ha),
                      DWF=[0](cms),  CN/C=[72.9], IA=[7.96](mm),
                      N=[3], TP=[0.08]hrs,
                      RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|------------------------------------------------------------|
CALIB NASHYD          ID=[6], NHYD=["Ext-12"], DT=[1]min, AREA=[5.2](ha),
                      DWF=[0](cms),  CN/C=[73], IA=[10](mm),
                      N=[3], TP=[0.18]hrs,
                      RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|------------------------------------------------------------|
*#-----------------|------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO EX. STORAGE AREA------|
*#-----------------|------------------------------------------------------------|
*#-----------------|------------------------------------------------------------|
ADD HYD               IDsum=[5], NHYD=["WET-STO"], IDs to add=[1,2,4,3,6]
*#-----------------|------------------------------------------------------------|
ROUTE RESERVOIR       IDout=[4],   NHYD=["22"],  IDin=[5],
                      RDT=[1](min),
                            TABLE of ( OUTFLOW-STORAGE ) values
                                        (cms) - (ha-m)
                                      [   0.0 ,  0.0 ]
                                      [   0.0102 ,  0.002 ]
                                      [   0.04230 ,  0.004 ]
                                      [   0.0939 ,  0.006 ]
                                      [   0.1286 ,  0.008 ]
                                      [   0.16330 ,  0.045 ]
                                      [   0.2489 ,  0.262 ]
                                      [   0.3488 ,  0.622 ]
                                      [   0.4601 ,  1.088 ]
                                      [   0.51955 ,  1.623 ]
                                      [   0.579 ,  1.925 ]
                                      [   0.7014 ,  2.253 ]
                                      [   0.8216 ,  2.951 ]
                                      [   0.9345 ,  3.689 ]
                                      [   -1  ,  -1  ]  (max twenty pts)
                            IDovf=[6], NHYDovf=["OVF"]
*#-----------------|------------------------------------------------------------|
CALIB NASHYD          ID=[3], NHYD=["Ext-10B"], DT=[1]min, AREA=[4.9](ha),
                      DWF=[0](cms),  CN/C=[54.6], IA=[6.15](mm),
                      N=[3], TP=[0.17]hrs,
                      RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|------------------------------------------------------------|
*#-----------------|------------------------------------------------------------|
*#-----------------|  THE ADD HYD BELOW MODELS SUBWATERSHED 22 OUTFLOW --------|
*#-----------------|------------------------------------------------------------|
*#-----------------|------------------------------------------------------------|
ADD HYD               IDsum=[5], NHYD=["22"], IDs to add=[3,4,6]
*%-----------------|------------------------------------------------------------|

FINISH
```

```
===========================================================================================
SSSSS  W   W  M   M  H   H  Y   Y  M   M   OOO        222    000    11   77777 =========
S      W W W  MM MM  H   H   Y Y   MM MM  O   O         2   0   0   11    7   7
SSSSS  W W W  M M M  HHHHH    Y    M M M  O   O         2   0   0   11        7 Ver4.05.0
    S   W W   M   M  H   H    Y    M   M  O   O       222   0   0   11        7  APR 2017
SSSSS   W W   M   M  H   H    Y    M   M   OOO        2     0   0   11       7   =========
                                                      2     0   0   11      7    # 3737016
       StormWater Management HYdrologic Model        222    000    11      7     =========

*******************************************************************************************
************************************  SWMHYMO Ver4.05.0  ***********************************
*****************  A single event and continuous hydrologic simulation model  *************
*****************      based on the principles of HYMO and its successors     *************
*****************                 OTTHYMO-83 and OTTHYMO-89.                  *************
*******************************************************************************************
***************** Distributed by:  J.F. Sabourin and Associates Inc.          *************
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*****************                  E-Mail: swmhymo@jfsa.com                   *************
*******************************************************************************************

+++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
+++++++++++++++++ Licensed user: C.F. Crozier & Associates Inc.              ++++++++++++++
+++++++++++++++++                Collingwood            SERIAL#:3737016      ++++++++++++++
+++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++

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


*******************************  S U M M A R Y   O U T P U T  ****************************
*******************************************************************************************
*            RUN DATE: 2022-02-10    TIME: 16:18:12     RUN COUNTER: 000007               *
*******************************************************************************************
* Input  file: J:\100\119 - Tabera Ltd\2528\Design\SWM\Fourth Submission\SWMHYMO Model\2022.01.1*
*              9 - regional control\Craigleith_SCS24\POST_Craigleith_SCS24 regional final.Dat   *
* Output file: J:\100\119 - Tabera Ltd\2528\Design\SWM\Fourth Submission\SWMHYMO Model\2022.01.1*
*              9 - regional control\Craigleith_SCS24\POST_Craigleith_SCS24 regional final.out   *
* Summary file: J:\100\119 - Tabera Ltd\2528\Design\SWM\Fourth Submission\SWMHYMO Model\2022.01.1*
*              9 - regional control\Craigleith_SCS24\POST_Craigleith_SCS24 regional final.sum   *
* User comments:                                                                            *
* 1:________________________________________________________________________________________*
* 2:________________________________________________________________________________________*
* 3:________________________________________________________________________________________*
*******************************************************************************************


#**************************************************************************
#  Project Name: [ALTA PHASE-II]    Project Number: [119-2528]
#  Date        : 2021.06.30
#  Modified    : 2021.06.30
#  Modeller    : [Z. Holland]
#  Company     : C.F. Crozier & Associates Inc.
#  License #   : 3737016
#**************************************************************************
 RUN#:COMMAND#
R0001:C00001---------------------------------------------------------------------------------
     START
      [TZERO =    .00 hrs on        0]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   0 ]
      [NRUN  = 0001 ]
#-----------------|-----------------------------------------------------------------|
#-----------------|-----------------------------------------------------------------|
#-----------------|----------2YR SCS-----------------------------------------------|
#-----------------|-----------------------------------------------------------------|
R0001:C00002---------------------------------------------------------------------------------
     MASS STORM
      Filename = J:\100\119 - Tabera Ltd\2528\Design\SWM\Fourth Submission\SWMHYMO M
      Comment  = 24 hour SCS II storm mass curve
      [SDT= 1.00:SDUR=  24.00:PTOT=  45.60]
#-----------------|-----------------------------------------------------------------|
#-----------------|----------------POST-DEVELOPMENT---------------------------------|
#-----------------|-----------------------------------------------------------------|
#-----------------|--------------------OUTLET A------------------------------------|
#-----------------|-----------------------------------------------------------------|
R0001:C00003------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 02:EXT-1          3.50     .099 No_date   12:15    9.78 .215     .000
      [CN= 73.0: N= 3.00: Tp=  .13]
#-----------------|-----------------------------------------------------------------|
R0001:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 07:INT-3           .20     .008 No_date   12:12    9.78 .215     .000
      [CN= 73.0: N= 3.00: Tp=  .05]
#-----------------|-----------------------------------------------------------------|
R0001:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 04:UNC-1           .80     .027 No_date   12:23   17.43 .382     .000
      [CN= 82.0: N= 3.00: Tp=  .28]
#-----------------|-----------------------------------------------------------------|
#-----------------|-----------------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 825mm CULVERT           |
#-----------------|-----------------------------------------------------------------|
R0001:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:EXT-1          3.50     .099 No_date   12:15    9.78  n/a     .000
                     +    1.0 03:INT-3           .20     .008 No_date   12:12    9.78  n/a     .000
                     +    1.0 04:UNC-1           .80     .027 No_date   12:23   17.43  n/a     .000
                  SUM=    1.0 01:825mm          4.50     .128 No_date   12:15   11.14  n/a     .000
#-----------------|-----------------------------------------------------------------|
#-----------------|-----------------------------------------------------------------|
#-----------------|----------OUTLET B---------------------------------------------|
#-----------------|-----------------------------------------------------------------|
R0001:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 05:EXT-2          4.10     .121 No_date   12:15    9.78 .215     .000
      [CN= 73.0: N= 3.00: Tp=  .12]
#-----------------|-----------------------------------------------------------------|
R0001:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 08:EXT-3          2.20     .063 No_date   12:15    9.78 .215     .000
      [CN= 73.0: N= 3.00: Tp=  .13]
#-----------------|-----------------------------------------------------------------|
R0001:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB STANDHYD        1.0 06:INT-2          3.00     .104 No_date   12:14   21.76 .477     .000
      [XIMP=.15:TIMP=.31]
      [LOSS= 2 :CN= 79.0]
      [Pervious    area: IAper= 5.00:SLPP=2.00:LGP=  65.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 2.00:SLPI= .50:LGI= 141.:MNI=.013:SCI=   .0]
#-----------------|-----------------------------------------------------------------|
R0001:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 07:INT-4           .60     .024 No_date   12:12    9.78 .215     .000
      [CN= 73.0: N= 3.00: Tp=  .05]
#-----------------|-----------------------------------------------------------------|
R0001:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB STANDHYD        1.0 09:INT-1          8.60     .292 No_date   12:16   22.31 .489     .000
      [XIMP=.16:TIMP=.34]
      [LOSS= 2 :CN= 79.0]
      [Pervious    area: IAper= 5.00:SLPP=2.00:LGP=  65.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 2.00:SLPI= .50:LGI= 246.:MNI=.013:SCI=   .0]
#-----------------|-----------------------------------------------------------------|
#-----------------|-----------------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE SWMF--------------------|
#-----------------|-----------------------------------------------------------------|
#-----------------|-----------------------------------------------------------------|
R0001:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 05:EXT-2          4.10     .121 No_date   12:15    9.78  n/a     .000
                     +    1.0 08:EXT-3          2.20     .063 No_date   12:15    9.78  n/a     .000
                     +    1.0 06:INT-2          3.00     .104 No_date   12:14   21.76  n/a     .000
                     +    1.0 07:INT-4           .60     .024 No_date   12:12    9.78  n/a     .000
                     +    1.0 09:INT-1          8.60     .292 No_date   12:16   22.31  n/a     .000
                  SUM=    1.0 04:POOL1INT      18.50     .595 No_date   12:15   17.55  n/a     .000
#-----------------|-----------------------------------------------------------------|
R0001:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB STANDHYD        1.0 02:SWMF            .80     .070 No_date   12:12   29.42 .645     .000
      [XIMP=.50:TIMP=.50]
      [LOSS= 2 :CN= 79.0]
      [Pervious    area: IAper= 5.00:SLPP=2.00:LGP=  20.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 2.00:SLPI=2.00:LGI=  63.:MNI=.013:SCI=   .0]
#-----------------|-----------------------------------------------------------------|
R0001:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 04:POOL1INT      18.50     .595 No_date   12:15   17.55  n/a     .000
                     +    1.0 02:SWMF            .80     .070 No_date   12:12   29.42  n/a     .000
                  SUM=    1.0 03:POOL1         19.30     .644 No_date   12:13   18.04  n/a     .000
#-----------------|-----------------------------------------------------------------|
#-----------------|-----------------------------------------------------------------|
R0001:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 03:POOL1         19.30     .644 No_date   12:13   18.04  n/a     .000
                 out <=   1.0 06:POOL          19.30     .036 No_date   17:03   18.04  n/a     .000
            overflow <=   1.0 07:OVF1            .00     .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.2303E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
#-----------------|-----------------------------------------------------------------|
R0001:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB STANDHYD        1.0 10:UNC-2          1.50     .044 No_date   12:27   19.40 .425     .000
      [XIMP=.08:TIMP=.22]
      [LOSS= 2 :CN= 79.0]
      [Pervious    area: IAper= 5.00:SLPP=2.00:LGP=  65.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 2.00:SLPI= .50:LGI= 100.:MNI=.013:SCI=   .0]
#-----------------|-----------------------------------------------------------------|
R0001:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 04:UNC-3          2.00     .092 No_date   12:12   11.39 .250     .000
      [CN= 75.3: N= 3.00: Tp=  .05]
#-----------------|-----------------------------------------------------------------|
#-----------------|-----------------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 900mm CULVERT-----|
#-----------------|-----------------------------------------------------------------|
R0001:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 04:UNC-3          2.00     .092 No_date   12:12   11.39  n/a     .000
                     +    1.0 06:POOL          19.30     .036 No_date   17:03   18.04  n/a     .000
                     +    1.0 07:OVF1            .00     .000 No_date    0:00     .00  n/a     .000
                     +    1.0 10:UNC-2          1.50     .044 No_date   12:27   19.40  n/a     .000
                  SUM=    1.0 02:900mm         22.80     .138 No_date   12:12   17.55  n/a     .000
#-----------------|-----------------------------------------------------------------|
#-----------------|-----------------------------------------------------------------|
#-----------------|----------OUTLET C---------------------------------------------|
#-----------------|-----------------------------------------------------------------|
R0001:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 04:EXT-4          2.60     .074 No_date   12:15    9.78 .215     .000
      [CN= 73.0: N= 3.00: Tp=  .13]
#-----------------|-----------------------------------------------------------------|
R0001:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 05:EXT-5          5.20     .160 No_date   12:14    9.78 .215     .000
      [CN= 73.0: N= 3.00: Tp=  .11]
#-----------------|-----------------------------------------------------------------|
R0001:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 08:INT-5           .10     .004 No_date   12:12    9.78 .215     .000
      [CN= 73.0: N= 3.00: Tp=  .05]
#-----------------|-----------------------------------------------------------------|
#-----------------|-----------------------------------------------------------------|
#-----------------|-------THE ADD HYD MODELS FLOW TO WC21A-------------------|
#-----------------|-----------------------------------------------------------------|
R0001:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 04:EXT-4          2.60     .074 No_date   12:15    9.78  n/a     .000
                     +    1.0 05:EXT-5          5.20     .160 No_date   12:14    9.78  n/a     .000
                     +    1.0 08:INT-5           .10     .004 No_date   12:12    9.78  n/a     .000
                  SUM=    1.0 06:EXT4_5         7.90     .236 No_date   12:15    9.78  n/a     .000
#-----------------|-----------------------------------------------------------------|
R0001:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 06:EXT4_5         7.90     .236 No_date   12:15    9.78  n/a     .000
     [RDT= 1.00] out<-    1.0 05:WC21A          7.90     .148 No_date   12:23    9.78  n/a     .000
      [L/S/n=  730./5.500/.070]
      {Vmax=  .858:Dmax=  .179}
#-----------------|-----------------------------------------------------------------|
R0001:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 04:UNC-4          3.10     .014 No_date   12:26    2.82 .062     .000
      [CN= 36.7: N= 3.00: Tp=  .30]
#-----------------|-----------------------------------------------------------------|
#-----------------|-------THE ADD HYD MODELS FLOW TO WC21A AT SITE------------|
#-----------------|-----------------------------------------------------------------|
R0001:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 05:WC21A          7.90     .148 No_date   12:23    9.78  n/a     .000
                     +    1.0 04:UNC-4          3.10     .014 No_date   12:26    2.82  n/a     .000
                  SUM=    1.0 03:EXT_UNC       11.00     .162 No_date   12:23    7.82  n/a     .000
#-----------------|-----------------------------------------------------------------|
#-----------------|-----------------------------------------------------------------|
R0001:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 07:Ext-6          6.00     .085 No_date   12:32    9.78 .215     .000
      [CN= 73.0: N= 3.00: Tp=  .39]
#-----------------|-----------------------------------------------------------------|
R0001:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 09:Ext-7          6.00     .138 No_date   12:19    9.78 .215     .000
      [CN= 73.0: N= 3.00: Tp=  .19]
#-----------------|-----------------------------------------------------------------|
R0001:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 10:Ext-8         13.10     .217 No_date   12:32   11.26 .247     .000
      [CN= 75.2: N= 3.00: Tp=  .40]
#-----------------|-----------------------------------------------------------------|
#-----------------|-----------------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS SUBWATERSHED FLOW--------------|
#-----------------|-----------------------------------------------------------------|
R0001:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 07:Ext-6          6.00     .085 No_date   12:32    9.78  n/a     .000
                     +    1.0 03:EXT_UNC       11.00     .162 No_date   12:23    7.82  n/a     .000
                     +    1.0 09:Ext-7          6.00     .138 No_date   12:19    9.78  n/a     .000
                     +    1.0 10:Ext-8         13.10     .217 No_date   12:32   11.26  n/a     .000
                  SUM=    1.0 04:NE_DITCH      36.10     .562 No_date   12:25    9.72  n/a     .000
#-----------------|-----------------------------------------------------------------|
R0001:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 06:Ext-9          7.00     .144 No_date   12:28   12.33 .270     .000
      [CN= 76.8: N= 3.00: Tp=  .34]
#-----------------|-----------------------------------------------------------------|
#-----------------|-----------------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS Subwatershed 21A Outflow--------|
#-----------------|-----------------------------------------------------------------|
#-----------------|-----------------------------------------------------------------|
R0001:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 04:NE_DITCH      36.10     .562 No_date   12:25    9.72  n/a     .000
                     +    1.0 06:Ext-9          7.00     .144 No_date   12:28   12.33  n/a     .000
                  SUM=    1.0 05:21A           43.10     .705 No_date   12:26   10.15  n/a     .000
#-----------------|-----------------------------------------------------------------|
R0001:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 04:Ext-10A       27.90     .354 No_date   12:19    5.76 .126     .000
      [CN= 56.0: N= 3.00: Tp=  .20]
#-----------------|-----------------------------------------------------------------|
R0001:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 03:Ext-11         3.90     .150 No_date   12:13   10.73 .235     .000
      [CN= 72.9: N= 3.00: Tp=  .08]
#-----------------|-----------------------------------------------------------------|
R0001:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 06:Ext-12         5.20     .123 No_date   12:18    9.78 .215     .000
      [CN= 73.0: N= 3.00: Tp=  .18]
#-----------------|-----------------------------------------------------------------|
#-----------------|-----------------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO EX. STORAGE AREA------|
#-----------------|-----------------------------------------------------------------|
#-----------------|-----------------------------------------------------------------|
R0001:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 01:825mm          4.50     .128 No_date   12:15   11.14  n/a     .000
                     +    1.0 02:900mm         22.80     .138 No_date   12:12   17.55  n/a     .000
                     +    1.0 04:Ext-10A       27.90     .354 No_date   12:19    5.76  n/a     .000
                     +    1.0 03:Ext-11         3.90     .150 No_date   12:13   10.73  n/a     .000
                     +    1.0 06:Ext-12         5.20     .123 No_date   12:18    9.78  n/a     .000
                  SUM=    1.0 05:WET-STO       64.30     .817 No_date   12:15   10.94  n/a     .000
#-----------------|-----------------------------------------------------------------|
R0001:C00036------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 05:WET-STO       64.30     .817 No_date   12:15   10.94  n/a     .000
                 out <=   1.0 04:22            64.30     .189 No_date   13:02   10.94  n/a     .000
            overflow <=   1.0 06:OVF             .00     .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.1098E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
#-----------------|-----------------------------------------------------------------|
R0001:C00037------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 03:Ext-10B        4.90     .075 No_date   12:17    6.21 .136     .000
      [CN= 54.6: N= 3.00: Tp=  .17]
#-----------------|-----------------------------------------------------------------|
#-----------------|-----------------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS SUBWATERSHED 22 OUTFLOW --------|
#-----------------|-----------------------------------------------------------------|
#-----------------|-----------------------------------------------------------------|
R0001:C00038------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 03:Ext-10B        4.90     .075 No_date   12:17    6.21  n/a     .000
                     +    1.0 04:22            64.30     .189 No_date   13:02   10.94  n/a     .000
                     +    1.0 06:OVF             .00     .000 No_date    0:00     .00  n/a     .000
                  SUM=    1.0 05:22            69.20     .242 No_date   12:19   10.61  n/a     .000
#-----------------|-----------------------------------------------------------------|
#-----------------|----------5YR SCS-----------------------------------------------|
#-----------------|-----------------------------------------------------------------|
R0001:C00039---------------------------------------------------------------------------------
     MASS STORM
      Filename = J:\100\119 - Tabera Ltd\2528\Design\SWM\Fourth Submission\SWMHYMO M
      Comment  = 24 hour SCS II storm mass curve
      [SDT= 1.00:SDUR=  24.00:PTOT=  62.40]
#-----------------|-----------------------------------------------------------------|
#-----------------|----------------POST-DEVELOPMENT---------------------------------|
#-----------------|-----------------------------------------------------------------|
#-----------------|--------------------OUTLET A------------------------------------|
#-----------------|-----------------------------------------------------------------|
R0001:C00040------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 02:EXT-1          3.50     .197 No_date   12:15   18.76 .301     .000
      [CN= 73.0: N= 3.00: Tp=  .13]
#-----------------|-----------------------------------------------------------------|
R0001:C00041------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 03:INT-3           .20     .015 No_date   12:12   18.76 .301     .000
      [CN= 73.0: N= 3.00: Tp=  .05]
#-----------------|-----------------------------------------------------------------|
R0001:C00042------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 04:UNC-1           .80     .047 No_date   12:23   29.48 .472     .000
      [CN= 82.0: N= 3.00: Tp=  .28]
#-----------------|-----------------------------------------------------------------|
#-----------------|-----------------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 825mm CULVERT           |
#-----------------|-----------------------------------------------------------------|
R0001:C00043------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:EXT-1          3.50     .197 No_date   12:15   18.76  n/a     .000
                     +    1.0 03:INT-3           .20     .015 No_date   12:12   18.76  n/a     .000
                     +    1.0 04:UNC-1           .80     .047 No_date   12:23   29.48  n/a     .000
                  SUM=    1.0 01:825mm          4.50     .247 No_date   12:15   20.67  n/a     .000
#-----------------|-----------------------------------------------------------------|
#-----------------|-----------------------------------------------------------------|
#-----------------|----------OUTLET B---------------------------------------------|
#-----------------|-----------------------------------------------------------------|
R0001:C00044------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 05:EXT-2          4.10     .240 No_date   12:15   18.76 .301     .000
      [CN= 73.0: N= 3.00: Tp=  .12]
#-----------------|-----------------------------------------------------------------|
R0001:C00045------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 08:EXT-3          2.20     .124 No_date   12:15   18.76 .301     .000
      [CN= 73.0: N= 3.00: Tp=  .13]
#-----------------|-----------------------------------------------------------------|
R0001:C00046------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB STANDHYD        1.0 06:INT-2          3.00     .188 No_date   12:14   34.63 .555     .000
      [XIMP=.15:TIMP=.31]
      [LOSS= 2 :CN= 79.0]
      [Pervious    area: IAper= 5.00:SLPP=2.00:LGP=  65.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 2.00:SLPI= .50:LGI= 141.:MNI=.013:SCI=   .0]
#-----------------|-----------------------------------------------------------------|
R0001:C00047------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 07:INT-4           .60     .046 No_date   12:12   18.76 .301     .000
      [CN= 73.0: N= 3.00: Tp=  .05]
#-----------------|-----------------------------------------------------------------|
R0001:C00048------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB STANDHYD        1.0 09:INT-1          8.60     .527 No_date   12:16   35.34 .566     .000
      [XIMP=.16:TIMP=.34]
      [LOSS= 2 :CN= 79.0]
      [Pervious    area: IAper= 5.00:SLPP=2.00:LGP=  65.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 2.00:SLPI= .50:LGI= 246.:MNI=.013:SCI=   .0]
#-----------------|-----------------------------------------------------------------|
#-----------------|-----------------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE SWMF--------------------|
#-----------------|-----------------------------------------------------------------|
#-----------------|-----------------------------------------------------------------|
R0001:C00049------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 05:EXT-2          4.10     .240 No_date   12:15   18.76  n/a     .000
                     +    1.0 08:EXT-3          2.20     .124 No_date   12:15   18.76  n/a     .000
                     +    1.0 06:INT-2          3.00     .188 No_date   12:14   34.63  n/a     .000
```

```
                    +     1.0 07:INT-4          .60      .046 No_date   12:12   18.76  n/a      .000
                    +     1.0 09:INT-1         8.60      .527 No_date   12:16   35.34  n/a      .000
                 SUM=     1.0 04:POOL1INT     18.50     1.106 No_date   12:15   29.04  n/a      .000
#-----------------|-------------------------------------------------------------|
R0001:C00050------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB STANDHYD        1.0 02:SWMF           .80      .105 No_date   12:12   43.39 .695      .000
      [XIMP=.50:TIMP=.50]
      [LOSS= 2 :CN= 79.0]
      [Pervious    area: IAper= 5.00:SLPP=2.00:LGP=  20.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 2.00:SLPI=2.00:LGI=  63.:MNI=.013:SCI=   .0]
#-----------------|-------------------------------------------------------------|
R0001:C00051------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 04:POOL1INT     18.50     1.106 No_date   12:15   29.04  n/a      .000
                    +     1.0 02:SWMF           .80      .105 No_date   12:12   43.39  n/a      .000
                 SUM=     1.0 03:POOL1        19.30     1.182 No_date   12:13   29.63  n/a      .000
#-----------------|-------------------------------------------------------------|
#-----------------|-------------------------------------------------------------|
R0001:C00052------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 03:POOL1        19.30     1.182 No_date   12:13   29.63  n/a      .000
                out <=    1.0 06:POOL         19.30      .084 No_date   14:34   29.63  n/a      .000
           overflow <=    1.0 07:OVF1           .00      .000 No_date    0:00     .00  n/a      .000
     {MxStoUsed=.3567E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
#-----------------|-------------------------------------------------------------|
R0001:C00053------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB STANDHYD        1.0 10:UNC-2         1.50      .087 No_date   12:22   31.75 .509      .000
      [XIMP=.08:TIMP=.22]
      [LOSS= 2 :CN= 79.0]
      [Pervious    area: IAper= 5.00:SLPP=2.00:LGP=  65.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 2.00:SLPI= .50:LGI= 100.:MNI=.013:SCI=   .0]
#-----------------|-------------------------------------------------------------|
R0001:C00054------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 04:UNC-3         2.00      .170 No_date   12:12   21.13 .339      .000
      [CN= 75.3: N= 3.00: Tp=  .05]
#-----------------|-------------------------------------------------------------|
#-----------------|-------------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 900mm CULVERT-----|
#-----------------|-------------------------------------------------------------|
R0001:C00055------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 04:UNC-3         2.00      .170 No_date   12:12   21.13  n/a      .000
                    +     1.0 06:POOL         19.30      .084 No_date   14:34   29.63  n/a      .000
                    +     1.0 07:OVF1           .00      .000 No_date    0:00     .00  n/a      .000
                    +     1.0 10:UNC-2         1.50      .087 No_date   12:22   31.75  n/a      .000
                 SUM=     1.0 02:900mm        22.80      .261 No_date   12:12   29.03  n/a      .000
#-----------------|-------------------------------------------------------------|
#-----------------|-------------------------------------------------------------|
#-----------------|-----------OUTLET C-----------------------------------------|
#-----------------|-------------------------------------------------------------|
R0001:C00056------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 04:EXT-4         2.60      .147 No_date   12:15   18.76 .301      .000
      [CN= 73.0: N= 3.00: Tp=  .13]
#-----------------|-------------------------------------------------------------|
R0001:C00057------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 05:EXT-5         5.20      .316 No_date   12:14   18.76 .301      .000
      [CN= 73.0: N= 3.00: Tp=  .11]
#-----------------|-------------------------------------------------------------|
R0001:C00058------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 08:INT-5          .10      .008 No_date   12:12   18.76 .301      .000
      [CN= 73.0: N= 3.00: Tp=  .05]
#-----------------|-------------------------------------------------------------|
#-----------------|-------------------------------------------------------------|
#-----------------|-------THE ADD HYD MODELS FLOW TO WC21A--------------------|
#-----------------|-------------------------------------------------------------|
R0001:C00059------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 04:EXT-4         2.60      .147 No_date   12:15   18.76  n/a      .000
                    +     1.0 05:EXT-5         5.20      .316 No_date   12:14   18.76  n/a      .000
                    +     1.0 08:INT-5          .10      .008 No_date   12:12   18.76  n/a      .000
                 SUM=     1.0 06:EXT4_5        7.90      .468 No_date   12:14   18.76  n/a      .000
#-----------------|-------------------------------------------------------------|
R0001:C00060------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 06:EXT4_5        7.90      .468 No_date   12:14   18.76  n/a      .000
     [RDT= 1.00] out<-    1.0 05:WC21A         7.90      .298 No_date   12:22   18.76  n/a      .000
      [L/S/n=  730./5.500/.070]
      {Vmax=  .880:Dmax=  .280}
#-----------------|-------------------------------------------------------------|
R0001:C00061------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 04:UNC-4         3.10      .031 No_date   12:26    5.80 .093      .000
      [CN= 36.7: N= 3.00: Tp=  .30]
#-----------------|-------------------------------------------------------------|
#-----------------|-------THE ADD HYD MODELS FLOW TO WC21A AT SITE------------|
#-----------------|-------------------------------------------------------------|
R0001:C00062------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 05:WC21A         7.90      .298 No_date   12:22   18.76  n/a      .000
                    +     1.0 04:UNC-4         3.10      .031 No_date   12:26    5.80  n/a      .000
                 SUM=     1.0 03:EXT_UNC      11.00      .328 No_date   12:22   15.11  n/a      .000
#-----------------|-------------------------------------------------------------|
#-----------------|-------------------------------------------------------------|
R0001:C00063------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 07:Ext-6         6.00      .174 No_date   12:31   18.76 .301      .000
      [CN= 73.0: N= 3.00: Tp=  .39]
#-----------------|-------------------------------------------------------------|
R0001:C00064------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 09:Ext-7         6.00      .276 No_date   12:18   18.76 .301      .000
      [CN= 73.0: N= 3.00: Tp=  .19]
#-----------------|-------------------------------------------------------------|
R0001:C00065------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 10:Ext-8        13.10      .422 No_date   12:31   20.95 .336      .000
      [CN= 75.2: N= 3.00: Tp=  .40]
#-----------------|-------------------------------------------------------------|
#-----------------|-------------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS SUBWATERSHED FLOW---------------|
#-----------------|-------------------------------------------------------------|
R0001:C00066------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 07:Ext-6         6.00      .174 No_date   12:31   18.76  n/a      .000
                    +     1.0 03:EXT_UNC      11.00      .328 No_date   12:22   15.11  n/a      .000
                    +     1.0 09:Ext-7         6.00      .276 No_date   12:18   18.76  n/a      .000
                    +     1.0 10:Ext-8        13.10      .422 No_date   12:31   20.95  n/a      .000
                 SUM=     1.0 04:NE_DITCH     36.10     1.124 No_date   12:24   18.44  n/a      .000
#-----------------|-------------------------------------------------------------|
R0001:C00067------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 06:Ext-9         7.00      .273 No_date   12:27   22.53 .361      .000
      [CN= 76.8: N= 3.00: Tp=  .34]
#-----------------|-------------------------------------------------------------|
#-----------------|-------------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS Subwatershed 21A Outflow--------|
#-----------------|-------------------------------------------------------------|
#-----------------|-------------------------------------------------------------|
R0001:C00068------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 04:NE_DITCH     36.10     1.124 No_date   12:24   18.44  n/a      .000
                    +     1.0 06:Ext-9         7.00      .273 No_date   12:27   22.53  n/a      .000
                 SUM=     1.0 05:21A          43.10     1.393 No_date   12:25   19.11  n/a      .000
#-----------------|-------------------------------------------------------------|
R0001:C00069------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 04:Ext-10A      27.90      .723 No_date   12:19   11.39 .182      .000
      [CN= 56.0: N= 3.00: Tp=  .20]
#-----------------|-------------------------------------------------------------|
R0001:C00070------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 03:Ext-11        3.90      .281 No_date   12:13   19.91 .319      .000
      [CN= 72.9: N= 3.00: Tp=  .08]
#-----------------|-------------------------------------------------------------|
R0001:C00071------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 06:Ext-12        5.20      .247 No_date   12:18   18.76 .301      .000
      [CN= 73.0: N= 3.00: Tp=  .18]
#-----------------|-------------------------------------------------------------|
#-----------------|-------------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO EX. STORAGE AREA------|
#-----------------|-------------------------------------------------------------|
#-----------------|-------------------------------------------------------------|
R0001:C00072------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 01:825mm         4.50      .247 No_date   12:15   20.67  n/a      .000
                    +     1.0 02:900mm        22.80      .261 No_date   12:12   29.03  n/a      .000
                    +     1.0 04:Ext-10A      27.90      .723 No_date   12:19   11.39  n/a      .000
                    +     1.0 03:Ext-11        3.90      .281 No_date   12:13   19.91  n/a      .000
                    +     1.0 06:Ext-12        5.20      .247 No_date   12:18   18.76  n/a      .000
                 SUM=     1.0 05:WET-STO      64.30     1.628 No_date   12:15   19.40  n/a      .000
#-----------------|-------------------------------------------------------------|
R0001:C00073------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 05:WET-STO      64.30     1.628 No_date   12:15   19.40  n/a      .000
                out <=    1.0 04:22           64.30      .253 No_date   13:28   19.40  n/a      .000
           overflow <=    1.0 06:OVF            .00      .000 No_date    0:00     .00  n/a      .000
     {MxStoUsed=.2774E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
#-----------------|-------------------------------------------------------------|
R0001:C00074------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 03:Ext-10B       4.90      .145 No_date   12:17   11.83 .190      .000
      [CN= 54.6: N= 3.00: Tp=  .17]
#-----------------|-------------------------------------------------------------|
#-----------------|-------------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS SUBWATERSHED 22 OUTFLOW ---------|
#-----------------|-------------------------------------------------------------|
#-----------------|-------------------------------------------------------------|
R0001:C00075------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 03:Ext-10B       4.90      .145 No_date   12:17   11.83  n/a      .000
                    +     1.0 04:22           64.30      .253 No_date   13:28   19.40  n/a      .000
                    +     1.0 06:OVF            .00      .000 No_date    0:00     .00  n/a      .000
                 SUM=     1.0 05:22           69.20      .342 No_date   12:19   18.87  n/a      .000
#-----------------|-------------------------------------------------------------|
#-----------------|-------------------------------------------------------------|
#-----------------|----------10YR SCS-----------------------------------------|
R0001:C00076---------------------------------------------------------------------------------------
    MASS STORM
      Filename = J:\100\119 - Tabera Ltd\2528\Design\SWM\Fourth Submission\SWMHYMO M
      Comment  = 24 hour SCS II storm mass curve
      [SDT= 1.00:SDUR=  24.00:PTOT=  72.00]
#-----------------|-------------------------------------------------------------|
#-----------------|----------------POST-DEVELOPMENT----------------------------|
#-----------------|-------------------------------------------------------------|
#-----------------|------------------------OUTLET A----------------------------|
#-----------------|-------------------------------------------------------------|
R0001:C00077------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 02:EXT-1         3.50      .261 No_date   12:15   24.65 .342      .000
      [CN= 73.0: N= 3.00: Tp=  .13]
#-----------------|-------------------------------------------------------------|
R0001:C00078------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 03:INT-3          .20      .020 No_date   12:12   24.65 .342      .000
      [CN= 73.0: N= 3.00: Tp=  .05]
#-----------------|-------------------------------------------------------------|
R0001:C00079------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 04:UNC-1          .80      .059 No_date   12:23   36.95 .513      .000
      [CN= 82.0: N= 3.00: Tp=  .28]
#-----------------|-------------------------------------------------------------|
#-----------------|-------------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 825mm CULVERT     |
#-----------------|-------------------------------------------------------------|
R0001:C00080------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:EXT-1         3.50      .261 No_date   12:15   24.65  n/a      .000
                    +     1.0 03:INT-3          .20      .020 No_date   12:12   24.65  n/a      .000
                    +     1.0 04:UNC-1          .80      .059 No_date   12:23   36.95  n/a      .000
                 SUM=     1.0 01:825mm         4.50      .325 No_date   12:15   26.84  n/a      .000
#-----------------|-------------------------------------------------------------|
#-----------------|-------------------------------------------------------------|
#-----------------|-----------OUTLET B-----------------------------------------|
#-----------------|-------------------------------------------------------------|
R0001:C00081------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 05:EXT-2         4.10      .317 No_date   12:14   24.65 .342      .000
      [CN= 73.0: N= 3.00: Tp=  .12]
#-----------------|-------------------------------------------------------------|
R0001:C00082------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 08:EXT-3         2.20      .164 No_date   12:15   24.65 .342      .000
      [CN= 73.0: N= 3.00: Tp=  .13]
#-----------------|-------------------------------------------------------------|
R0001:C00083------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB STANDHYD        1.0 06:INT-2         3.00      .249 No_date   12:14   42.46 .590      .000
      [XIMP=.15:TIMP=.31]
      [LOSS= 2 :CN= 79.0]
      [Pervious    area: IAper= 5.00:SLPP=2.00:LGP=  65.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 2.00:SLPI= .50:LGI= 141.:MNI=.013:SCI=   .0]
#-----------------|-------------------------------------------------------------|
R0001:C00084------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 07:INT-4          .60      .060 No_date   12:12   24.65 .342      .000
      [CN= 73.0: N= 3.00: Tp=  .05]
#-----------------|-------------------------------------------------------------|
R0001:C00085------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB STANDHYD        1.0 09:INT-1         8.60      .692 No_date   12:16   43.25 .601      .000
      [XIMP=.16:TIMP=.34]
      [LOSS= 2 :CN= 79.0]
      [Pervious    area: IAper= 5.00:SLPP=2.00:LGP=  65.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 2.00:SLPI= .50:LGI= 246.:MNI=.013:SCI=   .0]
#-----------------|-------------------------------------------------------------|
#-----------------|-------------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE SWMF--------------|
#-----------------|-------------------------------------------------------------|
#-----------------|-------------------------------------------------------------|
R0001:C00086------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 05:EXT-2         4.10      .317 No_date   12:14   24.65  n/a      .000
                    +     1.0 08:EXT-3         2.20      .164 No_date   12:15   24.65  n/a      .000
                    +     1.0 06:INT-2         3.00      .249 No_date   12:14   42.46  n/a      .000
                    +     1.0 07:INT-4          .60      .060 No_date   12:12   24.65  n/a      .000
                    +     1.0 09:INT-1         8.60      .692 No_date   12:16   43.25  n/a      .000
                 SUM=     1.0 04:POOL1INT     18.50     1.457 No_date   12:15   36.18  n/a      .000
#-----------------|-------------------------------------------------------------|
R0001:C00087------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB STANDHYD        1.0 02:SWMF           .80      .127 No_date   12:12   51.69 .718      .000
      [XIMP=.50:TIMP=.50]
      [LOSS= 2 :CN= 79.0]
      [Pervious    area: IAper= 5.00:SLPP=2.00:LGP=  20.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 2.00:SLPI=2.00:LGI=  63.:MNI=.013:SCI=   .0]
#-----------------|-------------------------------------------------------------|
R0001:C00088------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 04:POOL1INT     18.50     1.457 No_date   12:15   36.18  n/a      .000
                    +     1.0 02:SWMF           .80      .127 No_date   12:12   51.69  n/a      .000
                 SUM=     1.0 03:POOL1        19.30     1.543 No_date   12:13   36.83  n/a      .000
#-----------------|-------------------------------------------------------------|
#-----------------|-------------------------------------------------------------|
R0001:C00089------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 03:POOL1        19.30     1.543 No_date   12:13   36.83  n/a      .000
                out <=    1.0 06:POOL         19.30      .116 No_date   14:24   36.82  n/a      .000
           overflow <=    1.0 07:OVF1           .00      .000 No_date    0:00     .00  n/a      .000
     {MxStoUsed=.4366E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
#-----------------|-------------------------------------------------------------|
R0001:C00090------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB STANDHYD        1.0 10:UNC-2         1.50      .114 No_date   12:21   39.35 .547      .000
      [XIMP=.08:TIMP=.22]
      [LOSS= 2 :CN= 79.0]
      [Pervious    area: IAper= 5.00:SLPP=2.00:LGP=  65.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 2.00:SLPI= .50:LGI= 100.:MNI=.013:SCI=   .0]
#-----------------|-------------------------------------------------------------|
R0001:C00091------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 04:UNC-3         2.00      .220 No_date   12:12   27.42 .381      .000
      [CN= 75.3: N= 3.00: Tp=  .05]
#-----------------|-------------------------------------------------------------|
#-----------------|-------------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 900mm CULVERT-----|
#-----------------|-------------------------------------------------------------|
R0001:C00092------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 04:UNC-3         2.00      .220 No_date   12:12   27.42  n/a      .000
                    +     1.0 06:POOL         19.30      .116 No_date   14:24   36.82  n/a      .000
                    +     1.0 07:OVF1           .00      .000 No_date    0:00     .00  n/a      .000
                    +     1.0 10:UNC-2         1.50      .114 No_date   12:21   39.35  n/a      .000
                 SUM=     1.0 02:900mm        22.80      .344 No_date   12:12   36.16  n/a      .000
#-----------------|-------------------------------------------------------------|
#-----------------|-------------------------------------------------------------|
#-----------------|-----------OUTLET C-----------------------------------------|
#-----------------|-------------------------------------------------------------|
R0001:C00093------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 04:EXT-4         2.60      .194 No_date   12:15   24.65 .342      .000
      [CN= 73.0: N= 3.00: Tp=  .13]
#-----------------|-------------------------------------------------------------|
R0001:C00094------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 05:EXT-5         5.20      .418 No_date   12:14   24.65 .342      .000
      [CN= 73.0: N= 3.00: Tp=  .11]
#-----------------|-------------------------------------------------------------|
R0001:C00095------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 08:INT-5          .10      .010 No_date   12:12   24.65 .342      .000
      [CN= 73.0: N= 3.00: Tp=  .05]
#-----------------|-------------------------------------------------------------|
#-----------------|-------------------------------------------------------------|
#-----------------|-------THE ADD HYD MODELS FLOW TO WC21A--------------------|
#-----------------|-------------------------------------------------------------|
R0001:C00096------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 04:EXT-4         2.60      .194 No_date   12:15   24.65  n/a      .000
                    +     1.0 05:EXT-5         5.20      .418 No_date   12:14   24.65  n/a      .000
                    +     1.0 08:INT-5          .10      .010 No_date   12:12   24.65  n/a      .000
                 SUM=     1.0 06:EXT4_5        7.90      .619 No_date   12:14   24.65  n/a      .000
#-----------------|-------------------------------------------------------------|
R0001:C00097------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 06:EXT4_5        7.90      .619 No_date   12:14   24.65  n/a      .000
     [RDT= 1.00] out<-    1.0 05:WC21A         7.90      .399 No_date   12:21   24.65  n/a      .000
      [L/S/n=  730./5.500/.070]
      {Vmax=  .908:Dmax=  .302}
#-----------------|-------------------------------------------------------------|
R0001:C00098------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 04:UNC-4         3.10      .042 No_date   12:26    7.92 .110      .000
      [CN= 36.7: N= 3.00: Tp=  .30]
#-----------------|-------------------------------------------------------------|
#-----------------|-------THE ADD HYD MODELS FLOW TO WC21A AT SITE------------|
#-----------------|-------------------------------------------------------------|
R0001:C00099------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 05:WC21A         7.90      .399 No_date   12:21   24.65  n/a      .000
                    +     1.0 04:UNC-4         3.10      .042 No_date   12:26    7.92  n/a      .000
                 SUM=     1.0 03:EXT_UNC      11.00      .440 No_date   12:22   19.93  n/a      .000
#-----------------|-------------------------------------------------------------|
#-----------------|-------------------------------------------------------------|
R0001:C00100------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 07:Ext-6         6.00      .232 No_date   12:31   24.65 .342      .000
      [CN= 73.0: N= 3.00: Tp=  .39]
#-----------------|-------------------------------------------------------------|
R0001:C00101------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 09:Ext-7         6.00      .367 No_date   12:18   24.65 .342      .000
      [CN= 73.0: N= 3.00: Tp=  .19]
#-----------------|-------------------------------------------------------------|
R0001:C00102------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 10:Ext-8        13.10      .555 No_date   12:31   27.22 .378      .000
      [CN= 75.2: N= 3.00: Tp=  .40]
#-----------------|-------------------------------------------------------------|
#-----------------|-------------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS SUBWATERSHED FLOW---------------|
#-----------------|-------------------------------------------------------------|
R0001:C00103------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 07:Ext-6         6.00      .232 No_date   12:31   24.65  n/a      .000
                    +     1.0 03:EXT_UNC      11.00      .440 No_date   12:22   19.93  n/a      .000
                    +     1.0 09:Ext-7         6.00      .367 No_date   12:18   24.65  n/a      .000
                    +     1.0 10:Ext-8        13.10      .555 No_date   12:31   27.22  n/a      .000
                 SUM=     1.0 04:NE_DITCH     36.10     1.494 No_date   12:24   24.14  n/a      .000
#-----------------|-------------------------------------------------------------|
R0001:C00104------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 06:Ext-9         7.00      .356 No_date   12:27   29.06 .404      .000
      [CN= 76.8: N= 3.00: Tp=  .34]
#-----------------|-------------------------------------------------------------|
#-----------------|-------------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS Subwatershed 21A Outflow--------|
#-----------------|-------------------------------------------------------------|
#-----------------|-------------------------------------------------------------|
R0001:C00105------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 04:NE_DITCH     36.10     1.494 No_date   12:24   24.14  n/a      .000
                    +     1.0 06:Ext-9         7.00      .356 No_date   12:27   29.06  n/a      .000
                 SUM=     1.0 05:21A          43.10     1.844 No_date   12:24   24.94  n/a      .000
#-----------------|-------------------------------------------------------------|
R0001:C00106------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 04:Ext-10A      27.90      .978 No_date   12:19   15.24 .212      .000
      [CN= 56.0: N= 3.00: Tp=  .20]
#-----------------|-------------------------------------------------------------|
R0001:C00107------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 03:Ext-11        3.90      .365 No_date   12:13   25.88 .359      .000
      [CN= 72.9: N= 3.00: Tp=  .08]
#-----------------|-------------------------------------------------------------|
R0001:C00108------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 06:Ext-12        5.20      .327 No_date   12:18   24.65 .342      .000
      [CN= 73.0: N= 3.00: Tp=  .18]
#-----------------|-------------------------------------------------------------|
#-----------------|-------------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO EX. STORAGE AREA------|
#-----------------|-------------------------------------------------------------|
#-----------------|-------------------------------------------------------------|
R0001:C00109------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 01:825mm         4.50      .325 No_date   12:15   26.84  n/a      .000
```

```
                       +     1.0 02:900mm         22.80     .344 No_date   12:12   36.16  n/a      .000
                       +     1.0 04:Ext-10A       27.90     .978 No_date   12:19   15.24  n/a      .000
                       +     1.0 03:Ext-11         3.90     .365 No_date   12:13   25.88  n/a      .000
                       +     1.0 06:Ext-12         5.20     .327 No_date   12:18   24.65  n/a      .000
                    SUM=     1.0 05:WET-STO       64.30    2.171 No_date   12:15   24.88  n/a      .000
#-----------------|---------------------------------------------------------------|
R0001:C00110------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 05:WET-STO       64.30    2.171 No_date   12:15   24.88  n/a      .000
                 out <=    1.0 04:22            64.30     .290 No_date   14:21   24.88  n/a      .000
            overflow <=    1.0 06:OVF             .00     .000 No_date    0:00     .00  n/a      .000
     {MxStoUsed=.4097E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
#-----------------|---------------------------------------------------------------|
R0001:C00111------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 03:Ext-10B        4.90     .193 No_date   12:17   15.65 .217      .000
      [CN= 54.6: N= 3.00: Tp=  .17]
#-----------------|---------------------------------------------------------------|
#-----------------|---------------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS SUBWATERSHED 22 OUTFLOW --------|
#-----------------|---------------------------------------------------------------|
#-----------------|---------------------------------------------------------------|
R0001:C00112------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 03:Ext-10B        4.90     .193 No_date   12:17   15.65  n/a      .000
                       +     1.0 04:22            64.30     .290 No_date   14:21   24.88  n/a      .000
                       +     1.0 06:OVF             .00     .000 No_date    0:00     .00  n/a      .000
                    SUM=     1.0 05:22            69.20     .412 No_date   12:19   24.22  n/a      .000
#-----------------|---------------------------------------------------------------|
#-----------------|----------25YR SCS---------------------------------------------|
#-----------------|---------------------------------------------------------------|
R0001:C00113---------------------------------------------------------------------------------------
     MASS STORM
      Filename = J:\100\119 - Tabera Ltd\2528\Design\SWM\Fourth Submission\SWMHYMO M
      Comment  = 24 hour SCS II storm mass curve
      [SDT= 1.00:SDUR=  24.00:PTOT=  86.40]
#-----------------|---------------------------------------------------------------|
#-----------------|----------------POST-DEVELOPMENT-------------------------------|
#-----------------|---------------------------------------------------------------|
#-----------------|--------------------OUTLET A-----------------------------------|
#-----------------|---------------------------------------------------------------|
R0001:C00114------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 02:EXT-1          3.50     .365 No_date   12:15   34.27 .397      .000
      [CN= 73.0: N= 3.00: Tp=  .13]
#-----------------|---------------------------------------------------------------|
R0001:C00115------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 03:INT-3           .20     .027 No_date   12:12   34.27 .397      .000
      [CN= 73.0: N= 3.00: Tp=  .05]
#-----------------|---------------------------------------------------------------|
R0001:C00116------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 04:UNC-1           .80     .078 No_date   12:23   48.71 .564      .000
      [CN= 82.0: N= 3.00: Tp=  .28]
#-----------------|---------------------------------------------------------------|
#-----------------|---------------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 825mm CULVERT         |
#-----------------|---------------------------------------------------------------|
R0001:C00117------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:EXT-1          3.50     .365 No_date   12:15   34.27  n/a      .000
                       +     1.0 03:INT-3           .20     .027 No_date   12:12   34.27  n/a      .000
                       +     1.0 04:UNC-1           .80     .078 No_date   12:23   48.71  n/a      .000
                    SUM=     1.0 01:825mm          4.50     .451 No_date   12:15   36.83  n/a      .000
#-----------------|---------------------------------------------------------------|
#-----------------|---------------------------------------------------------------|
#-----------------|----------OUTLET B---------------------------------------------|
#-----------------|---------------------------------------------------------------|
R0001:C00118------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 05:EXT-2          4.10     .443 No_date   12:14   34.27 .397      .000
      [CN= 73.0: N= 3.00: Tp=  .12]
#-----------------|---------------------------------------------------------------|
R0001:C00119------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 08:EXT-3          2.20     .230 No_date   12:15   34.27 .397      .000
      [CN= 73.0: N= 3.00: Tp=  .13]
#-----------------|---------------------------------------------------------------|
R0001:C00120------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB STANDHYD        1.0 06:INT-2          3.00     .339 No_date   12:14   54.68 .633      .000
      [XIMP=.15:TIMP=.31]
      [LOSS= 2 :CN= 79.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  65.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI= .50:LGI= 141.:MNI=.013:SCI=   .0]
#-----------------|---------------------------------------------------------------|
R0001:C00121------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 07:INT-4           .60     .082 No_date   12:12   34.27 .397      .000
      [CN= 73.0: N= 3.00: Tp=  .05]
#-----------------|---------------------------------------------------------------|
R0001:C00122------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB STANDHYD        1.0 09:INT-1          8.60     .954 No_date   12:16   55.56 .643      .000
      [XIMP=.16:TIMP=.34]
      [LOSS= 2 :CN= 79.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  65.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI= .50:LGI= 246.:MNI=.013:SCI=   .0]
#-----------------|---------------------------------------------------------------|
#-----------------|---------------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE SWMF-------------|
#-----------------|---------------------------------------------------------------|
#-----------------|---------------------------------------------------------------|
R0001:C00123------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 05:EXT-2          4.10     .443 No_date   12:14   34.27  n/a      .000
                       +     1.0 08:EXT-3          2.20     .230 No_date   12:15   34.27  n/a      .000
                       +     1.0 06:INT-2          3.00     .339 No_date   12:14   54.68  n/a      .000
                       +     1.0 07:INT-4           .60     .082 No_date   12:12   34.27  n/a      .000
                       +     1.0 09:INT-1          8.60     .954 No_date   12:16   55.56  n/a      .000
                    SUM=     1.0 04:POOL1INT      18.50    2.019 No_date   12:15   47.48  n/a      .000
#-----------------|---------------------------------------------------------------|
R0001:C00124------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB STANDHYD        1.0 02:SWMF            .80     .161 No_date   12:12   64.45 .746      .000
      [XIMP=.50:TIMP=.50]
      [LOSS= 2 :CN= 79.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  20.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI=2.00:LGI=  63.:MNI=.013:SCI=   .0]
#-----------------|---------------------------------------------------------------|
R0001:C00125------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 04:POOL1INT      18.50    2.019 No_date   12:15   47.48  n/a      .000
                       +     1.0 02:SWMF            .80     .161 No_date   12:12   64.45  n/a      .000
                    SUM=     1.0 03:POOL1         19.30    2.131 No_date   12:13   48.18  n/a      .000
#-----------------|---------------------------------------------------------------|
#-----------------|---------------------------------------------------------------|
R0001:C00126------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 03:POOL1         19.30    2.131 No_date   12:13   48.18  n/a      .000
                 out <=    1.0 06:POOL          19.30     .202 No_date   13:36   48.18  n/a      .000
            overflow <=    1.0 07:OVF1            .00     .000 No_date    0:00     .00  n/a      .000
     {MxStoUsed=.5475E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
#-----------------|---------------------------------------------------------------|
R0001:C00127------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB STANDHYD        1.0 10:UNC-2          1.50     .161 No_date   12:19   51.27 .593      .000
      [XIMP=.08:TIMP=.22]
      [LOSS= 2 :CN= 79.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  65.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI= .50:LGI= 100.:MNI=.013:SCI=   .0]
#-----------------|---------------------------------------------------------------|
R0001:C00128------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 04:UNC-3          2.00     .299 No_date   12:12   37.59 .435      .000
      [CN= 75.3: N= 3.00: Tp=  .05]
#-----------------|---------------------------------------------------------------|
#-----------------|---------------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 900mm CULVERT-----|
#-----------------|---------------------------------------------------------------|
R0001:C00129------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 04:UNC-3          2.00     .299 No_date   12:12   37.59  n/a      .000
                       +     1.0 06:POOL          19.30     .202 No_date   13:36   48.18  n/a      .000
                       +     1.0 07:OVF1            .00     .000 No_date    0:00     .00  n/a      .000
                       +     1.0 10:UNC-2          1.50     .161 No_date   12:19   51.27  n/a      .000
                    SUM=     1.0 02:900mm         22.80     .489 No_date   12:12   47.45  n/a      .000
#-----------------|---------------------------------------------------------------|
#-----------------|---------------------------------------------------------------|
#-----------------|----------OUTLET C---------------------------------------------|
#-----------------|---------------------------------------------------------------|
R0001:C00130------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 04:EXT-4          2.60     .271 No_date   12:15   34.27 .397      .000
      [CN= 73.0: N= 3.00: Tp=  .13]
#-----------------|---------------------------------------------------------------|
R0001:C00131------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 05:EXT-5          5.20     .583 No_date   12:14   34.27 .397      .000
      [CN= 73.0: N= 3.00: Tp=  .11]
#-----------------|---------------------------------------------------------------|
R0001:C00132------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 08:INT-5           .10     .014 No_date   12:12   34.27 .397      .000
      [CN= 73.0: N= 3.00: Tp=  .05]
#-----------------|---------------------------------------------------------------|
#-----------------|---------------------------------------------------------------|
#-----------------|-------THE ADD HYD MODELS FLOW TO WC21A-------------------------|
#-----------------|---------------------------------------------------------------|
R0001:C00133------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 04:EXT-4          2.60     .271 No_date   12:15   34.27  n/a      .000
                       +     1.0 05:EXT-5          5.20     .583 No_date   12:14   34.27  n/a      .000
                       +     1.0 08:INT-5           .10     .014 No_date   12:12   34.27  n/a      .000
                    SUM=     1.0 06:EXT4_5         7.90     .865 No_date   12:14   34.27  n/a      .000
#-----------------|---------------------------------------------------------------|
R0001:C00134------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 06:EXT4_5         7.90     .865 No_date   12:14   34.27  n/a      .000
   [RDT= 1.00] out<-      1.0 05:WC21A          7.90     .572 No_date   12:21   34.27  n/a      .000
      [L/S/n=  730./5.500/.070]
      {Vmax=  .957:Dmax=  .336}
#-----------------|---------------------------------------------------------------|
R0001:C00135------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 04:UNC-4          3.10     .063 No_date   12:25   11.62 .134      .000
      [CN= 36.7: N= 3.00: Tp=  .30]
#-----------------|---------------------------------------------------------------|
#-----------------|-------THE ADD HYD MODELS FLOW TO WC21A AT SITE-----------------|
#-----------------|---------------------------------------------------------------|
R0001:C00136------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 05:WC21A          7.90     .572 No_date   12:21   34.27  n/a      .000
                       +     1.0 04:UNC-4          3.10     .063 No_date   12:25   11.62  n/a      .000
                    SUM=     1.0 03:EXT_UNC       11.00     .632 No_date   12:21   27.88  n/a      .000
#-----------------|---------------------------------------------------------------|
#-----------------|---------------------------------------------------------------|
R0001:C00137------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 07:Ext-6          6.00     .327 No_date   12:30   34.27 .397      .000
      [CN= 73.0: N= 3.00: Tp=  .39]
#-----------------|---------------------------------------------------------------|
R0001:C00138------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 09:Ext-7          6.00     .515 No_date   12:18   34.27 .397      .000
      [CN= 73.0: N= 3.00: Tp=  .19]
#-----------------|---------------------------------------------------------------|
R0001:C00139------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 10:Ext-8         13.10     .771 No_date   12:31   37.36 .432      .000
      [CN= 75.2: N= 3.00: Tp=  .40]
#-----------------|---------------------------------------------------------------|
#-----------------|---------------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS SUBWATERSHED FLOW--------------|
#-----------------|---------------------------------------------------------------|
R0001:C00140------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 07:Ext-6          6.00     .327 No_date   12:30   34.27  n/a      .000
                       +     1.0 03:EXT_UNC       11.00     .632 No_date   12:21   27.88  n/a      .000
                       +     1.0 09:Ext-7          6.00     .515 No_date   12:18   34.27  n/a      .000
                       +     1.0 10:Ext-8         13.10     .771 No_date   12:31   37.36  n/a      .000
                    SUM=     1.0 04:NE_DITCH      36.10    2.106 No_date   12:23   33.44  n/a      .000
#-----------------|---------------------------------------------------------------|
R0001:C00141------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 06:Ext-9          7.00     .489 No_date   12:27   39.58 .458      .000
      [CN= 76.8: N= 3.00: Tp=  .34]
#-----------------|---------------------------------------------------------------|
#-----------------|---------------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS Subwatershed 21A Outflow--------|
#-----------------|---------------------------------------------------------------|
#-----------------|---------------------------------------------------------------|
R0001:C00142------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 04:NE_DITCH      36.10    2.106 No_date   12:23   33.44  n/a      .000
                       +     1.0 06:Ext-9          7.00     .489 No_date   12:27   39.58  n/a      .000
                    SUM=     1.0 05:21A           43.10    2.586 No_date   12:24   34.44  n/a      .000
#-----------------|---------------------------------------------------------------|
R0001:C00143------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 04:Ext-10A       27.90    1.412 No_date   12:19   21.77 .252      .000
      [CN= 56.0: N= 3.00: Tp=  .20]
#-----------------|---------------------------------------------------------------|
R0001:C00144------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 03:Ext-11         3.90     .501 No_date   12:13   35.59 .412      .000
      [CN= 72.9: N= 3.00: Tp=  .08]
#-----------------|---------------------------------------------------------------|
R0001:C00145------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 06:Ext-12         5.20     .460 No_date   12:17   34.27 .397      .000
      [CN= 73.0: N= 3.00: Tp=  .18]
#-----------------|---------------------------------------------------------------|
#-----------------|---------------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO EX. STORAGE AREA------|
#-----------------|---------------------------------------------------------------|
#-----------------|---------------------------------------------------------------|
R0001:C00146------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 01:825mm          4.50     .451 No_date   12:15   36.83  n/a      .000
                       +     1.0 02:900mm         22.80     .489 No_date   12:12   47.45  n/a      .000
                       +     1.0 04:Ext-10A       27.90    1.412 No_date   12:19   21.77  n/a      .000
                       +     1.0 03:Ext-11         3.90     .501 No_date   12:13   35.59  n/a      .000
                       +     1.0 06:Ext-12         5.20     .460 No_date   12:17   34.27  n/a      .000
                    SUM=     1.0 05:WET-STO       64.30    3.092 No_date   12:15   33.78  n/a      .000
#-----------------|---------------------------------------------------------------|
R0001:C00147------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 05:WET-STO       64.30    3.092 No_date   12:15   33.78  n/a      .000
                 out <=    1.0 04:22            64.30     .359 No_date   14:52   33.78  n/a      .000
            overflow <=    1.0 06:OVF             .00     .000 No_date    0:00     .00  n/a      .000
     {MxStoUsed=.6626E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
#-----------------|---------------------------------------------------------------|
R0001:C00148------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 03:Ext-10B        4.90     .275 No_date   12:17   22.10 .256      .000
      [CN= 54.6: N= 3.00: Tp=  .17]
#-----------------|---------------------------------------------------------------|
#-----------------|---------------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS SUBWATERSHED 22 OUTFLOW --------|
#-----------------|---------------------------------------------------------------|
#-----------------|---------------------------------------------------------------|
R0001:C00149------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 03:Ext-10B        4.90     .275 No_date   12:17   22.10  n/a      .000
                       +     1.0 04:22            64.30     .359 No_date   14:52   33.78  n/a      .000
                       +     1.0 06:OVF             .00     .000 No_date    0:00     .00  n/a      .000
                    SUM=     1.0 05:22            69.20     .527 No_date   12:18   32.95  n/a      .000
#-----------------|---------------------------------------------------------------|
#-----------------|----------50YR SCS---------------------------------------------|
#-----------------|---------------------------------------------------------------|
R0001:C00150---------------------------------------------------------------------------------------
     MASS STORM
      Filename = J:\100\119 - Tabera Ltd\2528\Design\SWM\Fourth Submission\SWMHYMO M
      Comment  = 24 hour SCS II storm mass curve
      [SDT= 1.00:SDUR=  24.00:PTOT=  96.00]
#-----------------|---------------------------------------------------------------|
#-----------------|----------------POST-DEVELOPMENT-------------------------------|
#-----------------|---------------------------------------------------------------|
#-----------------|--------------------OUTLET A-----------------------------------|
#-----------------|---------------------------------------------------------------|
R0001:C00151------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 02:EXT-1          3.50     .439 No_date   12:15   41.10 .428      .000
      [CN= 73.0: N= 3.00: Tp=  .13]
#-----------------|---------------------------------------------------------------|
R0001:C00152------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 03:INT-3           .20     .033 No_date   12:12   41.10 .428      .000
      [CN= 73.0: N= 3.00: Tp=  .05]
#-----------------|---------------------------------------------------------------|
R0001:C00153------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 04:UNC-1           .80     .091 No_date   12:22   56.84 .592      .000
      [CN= 82.0: N= 3.00: Tp=  .28]
#-----------------|---------------------------------------------------------------|
#-----------------|---------------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 825mm CULVERT         |
#-----------------|---------------------------------------------------------------|
R0001:C00154------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:EXT-1          3.50     .439 No_date   12:15   41.10  n/a      .000
                       +     1.0 03:INT-3           .20     .033 No_date   12:12   41.10  n/a      .000
                       +     1.0 04:UNC-1           .80     .091 No_date   12:22   56.84  n/a      .000
                    SUM=     1.0 01:825mm          4.50     .540 No_date   12:15   43.90  n/a      .000
#-----------------|---------------------------------------------------------------|
#-----------------|---------------------------------------------------------------|
#-----------------|----------OUTLET B---------------------------------------------|
#-----------------|---------------------------------------------------------------|
R0001:C00155------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 05:EXT-2          4.10     .532 No_date   12:14   41.10 .428      .000
      [CN= 73.0: N= 3.00: Tp=  .12]
#-----------------|---------------------------------------------------------------|
R0001:C00156------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 08:EXT-3          2.20     .276 No_date   12:15   41.10 .428      .000
      [CN= 73.0: N= 3.00: Tp=  .13]
#-----------------|---------------------------------------------------------------|
R0001:C00157------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB STANDHYD        1.0 06:INT-2          3.00     .411 No_date   12:14   63.06 .657      .000
      [XIMP=.15:TIMP=.31]
      [LOSS= 2 :CN= 79.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  65.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI= .50:LGI= 141.:MNI=.013:SCI=   .0]
#-----------------|---------------------------------------------------------------|
R0001:C00158------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 07:INT-4           .60     .098 No_date   12:12   41.10 .428      .000
      [CN= 73.0: N= 3.00: Tp=  .05]
#-----------------|---------------------------------------------------------------|
R0001:C00159------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB STANDHYD        1.0 09:INT-1          8.60    1.149 No_date   12:16   64.00 .667      .000
      [XIMP=.16:TIMP=.34]
      [LOSS= 2 :CN= 79.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  65.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI= .50:LGI= 246.:MNI=.013:SCI=   .0]
#-----------------|---------------------------------------------------------------|
#-----------------|---------------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE SWMF-------------|
#-----------------|---------------------------------------------------------------|
#-----------------|---------------------------------------------------------------|
R0001:C00160------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 05:EXT-2          4.10     .532 No_date   12:14   41.10  n/a      .000
                       +     1.0 08:EXT-3          2.20     .276 No_date   12:15   41.10  n/a      .000
                       +     1.0 06:INT-2          3.00     .411 No_date   12:14   63.06  n/a      .000
                       +     1.0 07:INT-4           .60     .098 No_date   12:12   41.10  n/a      .000
                       +     1.0 09:INT-1          8.60    1.149 No_date   12:16   64.00  n/a      .000
                    SUM=     1.0 04:POOL1INT      18.50    2.432 No_date   12:15   55.31  n/a      .000
#-----------------|---------------------------------------------------------------|
R0001:C00161------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB STANDHYD        1.0 02:SWMF            .80     .183 No_date   12:12   73.12 .762      .000
      [XIMP=.50:TIMP=.50]
      [LOSS= 2 :CN= 79.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  20.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI=2.00:LGI=  63.:MNI=.013:SCI=   .0]
#-----------------|---------------------------------------------------------------|
R0001:C00162------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 04:POOL1INT      18.50    2.432 No_date   12:15   55.31  n/a      .000
                       +     1.0 02:SWMF            .80     .183 No_date   12:12   73.12  n/a      .000
                    SUM=     1.0 03:POOL1         19.30    2.559 No_date   12:14   56.05  n/a      .000
#-----------------|---------------------------------------------------------------|
#-----------------|---------------------------------------------------------------|
R0001:C00163------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 03:POOL1         19.30    2.559 No_date   12:14   56.05  n/a      .000
                 out <=    1.0 06:POOL          19.30     .270 No_date   13:23   56.04  n/a      .000
            overflow <=    1.0 07:OVF1            .00     .000 No_date    0:00     .00  n/a      .000
     {MxStoUsed=.6266E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
#-----------------|---------------------------------------------------------------|
R0001:C00164------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB STANDHYD        1.0 10:UNC-2          1.50     .195 No_date   12:17   59.48 .620      .000
      [XIMP=.08:TIMP=.22]
      [LOSS= 2 :CN= 79.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  65.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI= .50:LGI= 100.:MNI=.013:SCI=   .0]
#-----------------|---------------------------------------------------------------|
R0001:C00165------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CALIB NASHYD          1.0 04:UNC-3          2.00     .355 No_date   12:12   44.77 .466      .000
      [CN= 75.3: N= 3.00: Tp=  .05]
#-----------------|---------------------------------------------------------------|
#-----------------|---------------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 900mm CULVERT-----|
#-----------------|---------------------------------------------------------------|
R0001:C00166------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 04:UNC-3          2.00     .355 No_date   12:12   44.77  n/a      .000
                       +     1.0 06:POOL          19.30     .270 No_date   13:23   56.04  n/a      .000
                       +     1.0 07:OVF1            .00     .000 No_date    0:00     .00  n/a      .000
                       +     1.0 10:UNC-2          1.50     .195 No_date   12:17   59.48  n/a      .000
                    SUM=     1.0 02:900mm         22.80     .599 No_date   12:12   55.28  n/a      .000
```

```
#-----------------|-------------------------------------------------------------|
#-----------------|-------------------------------------------------------------|
#-----------------|-----------OUTLET C------------------------------------------|
#-----------------|-------------------------------------------------------------|
R0001:C00167------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD          1.0 04:EXT-4          2.60     .326 No_date   12:15   41.10 .428      .000
       [CN= 73.0: N= 3.00: Tp=  .13]
#-----------------|-------------------------------------------------------------|
R0001:C00168------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD          1.0 05:EXT-5          5.20     .700 No_date   12:14   41.10 .428      .000
       [CN= 73.0: N= 3.00: Tp=  .11]
#-----------------|-------------------------------------------------------------|
R0001:C00169------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD          1.0 08:INT-5           .10     .016 No_date   12:12   41.10 .428      .000
       [CN= 73.0: N= 3.00: Tp=  .05]
#-----------------|-------------------------------------------------------------|
#-----------------|-------------------------------------------------------------|
#-----------------|-------THE ADD HYD MODELS FLOW TO WC21A--------------------|
#-----------------|-------------------------------------------------------------|
R0001:C00170------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 04:EXT-4          2.60     .326 No_date   12:15   41.10  n/a      .000
                     +     1.0 05:EXT-5          5.20     .700 No_date   12:14   41.10  n/a      .000
                     +     1.0 08:INT-5           .10     .016 No_date   12:12   41.10  n/a      .000
                  SUM=     1.0 06:EXT4_5         7.90    1.038 No_date   12:14   41.10  n/a      .000
#-----------------|-------------------------------------------------------------|
R0001:C00171------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    1.0 06:EXT4_5         7.90    1.038 No_date   12:14   41.10  n/a      .000
      [RDT= 1.00] out<-    1.0 05:WC21A          7.90     .699 No_date   12:20   41.10  n/a      .000
       [L/S/n=  730./5.500/.070]
       {Vmax=  .996:Dmax=  .361}
#-----------------|-------------------------------------------------------------|
R0001:C00172------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD          1.0 04:UNC-4          3.10     .078 No_date   12:25   14.41 .150      .000
       [CN= 36.7: N= 3.00: Tp=  .30]
#-----------------|-------------------------------------------------------------|
#-----------------|-------THE ADD HYD MODELS FLOW TO WC21A AT SITE------------|
#-----------------|-------------------------------------------------------------|
R0001:C00173------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 05:WC21A          7.90     .699 No_date   12:20   41.10  n/a      .000
                     +     1.0 04:UNC-4          3.10     .078 No_date   12:25   14.41  n/a      .000
                  SUM=     1.0 03:EXT_UNC       11.00     .774 No_date   12:20   33.58  n/a      .000
#-----------------|-------------------------------------------------------------|
#-----------------|-------------------------------------------------------------|
R0001:C00174------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD          1.0 07:Ext-6          6.00     .395 No_date   12:30   41.10 .428      .000
       [CN= 73.0: N= 3.00: Tp=  .39]
#-----------------|-------------------------------------------------------------|
R0001:C00175------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD          1.0 09:Ext-7          6.00     .620 No_date   12:18   41.10 .428      .000
       [CN= 73.0: N= 3.00: Tp=  .19]
#-----------------|-------------------------------------------------------------|
R0001:C00176------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD          1.0 10:Ext-8         13.10     .924 No_date   12:31   44.52 .464      .000
       [CN= 75.2: N= 3.00: Tp=  .40]
#-----------------|-------------------------------------------------------------|
#-----------------|-------------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS SUBWATERSHED FLOW---------------|
#-----------------|-------------------------------------------------------------|
R0001:C00177------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 07:Ext-6          6.00     .395 No_date   12:30   41.10  n/a      .000
                     +     1.0 03:EXT_UNC       11.00     .774 No_date   12:20   33.58  n/a      .000
                     +     1.0 09:Ext-7          6.00     .620 No_date   12:18   41.10  n/a      .000
                     +     1.0 10:Ext-8         13.10     .924 No_date   12:31   44.52  n/a      .000
                  SUM=     1.0 04:NE_DITCH      36.10    2.544 No_date   12:23   40.05  n/a      .000
#-----------------|-------------------------------------------------------------|
R0001:C00178------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD          1.0 06:Ext-9          7.00     .583 No_date   12:27   46.96 .489      .000
       [CN= 76.8: N= 3.00: Tp=  .34]
#-----------------|-------------------------------------------------------------|
#-----------------|-------------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS Subwatershed 21A Outflow--------|
#-----------------|-------------------------------------------------------------|
#-----------------|-------------------------------------------------------------|
R0001:C00179------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 04:NE_DITCH      36.10    2.544 No_date   12:23   40.05  n/a      .000
                     +     1.0 06:Ext-9          7.00     .583 No_date   12:27   46.96  n/a      .000
                  SUM=     1.0 05:21A           43.10    3.115 No_date   12:23   41.17  n/a      .000
#-----------------|-------------------------------------------------------------|
R0001:C00180------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD          1.0 04:Ext-10A       27.90    1.732 No_date   12:19   26.57 .277      .000
       [CN= 56.0: N= 3.00: Tp=  .20]
#-----------------|-------------------------------------------------------------|
R0001:C00181------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD          1.0 03:Ext-11         3.90     .597 No_date   12:13   42.48 .443      .000
       [CN= 72.9: N= 3.00: Tp=  .08]
#-----------------|-------------------------------------------------------------|
R0001:C00182------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD          1.0 06:Ext-12         5.20     .554 No_date   12:17   41.10 .428      .000
       [CN= 73.0: N= 3.00: Tp=  .18]
#-----------------|-------------------------------------------------------------|
#-----------------|-------------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO EX. STORAGE AREA------|
#-----------------|-------------------------------------------------------------|
#-----------------|-------------------------------------------------------------|
R0001:C00183------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 01:825mm          4.50     .540 No_date   12:15   43.90  n/a      .000
                     +     1.0 02:900mm         22.80     .599 No_date   12:12   55.28  n/a      .000
                     +     1.0 04:Ext-10A       27.90    1.732 No_date   12:19   26.57  n/a      .000
                     +     1.0 03:Ext-11         3.90     .597 No_date   12:13   42.48  n/a      .000
                     +     1.0 06:Ext-12         5.20     .554 No_date   12:17   41.10  n/a      .000
                  SUM=     1.0 05:WET-STO       64.30    3.761 No_date   12:15   40.10  n/a      .000
#-----------------|-------------------------------------------------------------|
R0001:C00184------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 05:WET-STO       64.30    3.761 No_date   12:15   40.10  n/a      .000
                out <=     1.0 04:22            64.30     .406 No_date   15:23   40.10  n/a      .000
           overflow <=     1.0 06:OVF             .00     .000 No_date    0:00     .00  n/a      .000
    {MxStoUsed=.8624E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
#-----------------|-------------------------------------------------------------|
R0001:C00185------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD          1.0 03:Ext-10B        4.90     .335 No_date   12:17   26.82 .279      .000
       [CN= 54.6: N= 3.00: Tp=  .17]
#-----------------|-------------------------------------------------------------|
#-----------------|-------------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS SUBWATERSHED 22 OUTFLOW --------|
#-----------------|-------------------------------------------------------------|
#-----------------|-------------------------------------------------------------|
R0001:C00186------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 03:Ext-10B        4.90     .335 No_date   12:17   26.82  n/a      .000
                     +     1.0 04:22            64.30     .406 No_date   15:23   40.10  n/a      .000
                     +     1.0 06:OVF             .00     .000 No_date    0:00     .00  n/a      .000
                  SUM=     1.0 05:22            69.20     .606 No_date   12:18   39.16  n/a      .000
#-----------------|-------------------------------------------------------------|
#-----------------|----------100YR SCS------------------------------------------|
#-----------------|-------------------------------------------------------------|
R0001:C00187-----------------------------------------------------------------------------------------
      MASS STORM
       Filename = J:\100\119 - Tabera Ltd\2528\Design\SWM\Fourth Submission\SWMHYMO M
       Comment  = 24 hour SCS II storm mass curve
       [SDT= 1.00:SDUR=  24.00:PTOT= 108.00]
#-----------------|-------------------------------------------------------------|
#-----------------|-----------------POST-DEVELOPMENT-------------------------|
#-----------------|-------------------------------------------------------------|
#-----------------|--------------------OUTLET A-----------------------------|
#-----------------|-------------------------------------------------------------|
R0001:C00188------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD          1.0 02:EXT-1          3.50     .535 No_date   12:15   50.04 .463      .000
       [CN= 73.0: N= 3.00: Tp=  .13]
#-----------------|-------------------------------------------------------------|
R0001:C00189------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD          1.0 03:INT-3           .20     .040 No_date   12:12   50.04 .463      .000
       [CN= 73.0: N= 3.00: Tp=  .05]
#-----------------|-------------------------------------------------------------|
R0001:C00190------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD          1.0 04:UNC-1           .80     .108 No_date   12:22   67.25 .623      .000
       [CN= 82.0: N= 3.00: Tp=  .28]
#-----------------|-------------------------------------------------------------|
#-----------------|-------------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 825mm CULVERT      |
#-----------------|-------------------------------------------------------------|
R0001:C00191------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:EXT-1          3.50     .535 No_date   12:15   50.04  n/a      .000
                     +     1.0 03:INT-3           .20     .040 No_date   12:12   50.04  n/a      .000
                     +     1.0 04:UNC-1           .80     .108 No_date   12:22   67.25  n/a      .000
                  SUM=     1.0 01:825mm          4.50     .655 No_date   12:15   53.10  n/a      .000
#-----------------|-------------------------------------------------------------|
#-----------------|-------------------------------------------------------------|
#-----------------|-----------OUTLET B------------------------------------------|
#-----------------|-------------------------------------------------------------|
R0001:C00192------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD          1.0 05:EXT-2          4.10     .649 No_date   12:14   50.04 .463      .000
       [CN= 73.0: N= 3.00: Tp=  .12]
#-----------------|-------------------------------------------------------------|
R0001:C00193------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD          1.0 08:EXT-3          2.20     .336 No_date   12:15   50.04 .463      .000
       [CN= 73.0: N= 3.00: Tp=  .13]
#-----------------|-------------------------------------------------------------|
R0001:C00194------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB STANDHYD        1.0 06:INT-2          3.00     .504 No_date   12:14   73.75 .683      .000
      [XIMP=.15:TIMP=.31]
      [LOSS= 2 :CN= 79.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  65.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI= .50:LGI= 141.:MNI=.013:SCI=   .0]
#-----------------|-------------------------------------------------------------|
R0001:C00195------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD          1.0 07:INT-4           .60     .119 No_date   12:12   50.04 .463      .000
       [CN= 73.0: N= 3.00: Tp=  .05]
#-----------------|-------------------------------------------------------------|
R0001:C00196------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB STANDHYD        1.0 09:INT-1          8.60    1.405 No_date   12:15   74.75 .692      .000
      [XIMP=.16:TIMP=.34]
      [LOSS= 2 :CN= 79.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  65.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI= .50:LGI= 246.:MNI=.013:SCI=   .0]
#-----------------|-------------------------------------------------------------|
#-----------------|-------------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE SWMF--------------|
#-----------------|-------------------------------------------------------------|
#-----------------|-------------------------------------------------------------|
R0001:C00197------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 05:EXT-2          4.10     .649 No_date   12:14   50.04  n/a      .000
                     +     1.0 08:EXT-3          2.20     .336 No_date   12:15   50.04  n/a      .000
                     +     1.0 06:INT-2          3.00     .504 No_date   12:14   73.75  n/a      .000
                     +     1.0 07:INT-4           .60     .119 No_date   12:12   50.04  n/a      .000
                     +     1.0 09:INT-1          8.60    1.405 No_date   12:15   74.75  n/a      .000
                  SUM=     1.0 04:POOL1INT      18.50    2.975 No_date   12:14   65.37  n/a      .000
#-----------------|-------------------------------------------------------------|
R0001:C00198------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB STANDHYD        1.0 02:SWMF            .80     .214 No_date   12:12   84.10 .779      .000
      [XIMP=.50:TIMP=.50]
      [LOSS= 2 :CN= 79.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  20.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI=2.00:LGI=  63.:MNI=.013:SCI=   .0]
#-----------------|-------------------------------------------------------------|
R0001:C00199------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 04:POOL1INT      18.50    2.975 No_date   12:14   65.37  n/a      .000
                     +     1.0 02:SWMF            .80     .214 No_date   12:12   84.10  n/a      .000
                  SUM=     1.0 03:POOL1         19.30    3.107 No_date   12:14   66.15  n/a      .000
#-----------------|-------------------------------------------------------------|
#-----------------|-------------------------------------------------------------|
R0001:C00200------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 03:POOL1         19.30    3.107 No_date   12:14   66.15  n/a      .000
                out <=     1.0 06:POOL          19.30     .362 No_date   13:15   66.14  n/a      .000
           overflow <=     1.0 07:OVF1            .00     .000 No_date    0:00     .00  n/a      .000
    {MxStoUsed=.7281E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
#-----------------|-------------------------------------------------------------|
R0001:C00201------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB STANDHYD        1.0 10:UNC-2          1.50     .241 No_date   12:14   69.97 .648      .000
      [XIMP=.08:TIMP=.22]
      [LOSS= 2 :CN= 79.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  65.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI= .50:LGI= 100.:MNI=.013:SCI=   .0]
#-----------------|-------------------------------------------------------------|
R0001:C00202------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD          1.0 04:UNC-3          2.00     .426 No_date   12:12   54.10 .501      .000
       [CN= 75.3: N= 3.00: Tp=  .05]
#-----------------|-------------------------------------------------------------|
#-----------------|-------------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO THE 900mm CULVERT-----|
#-----------------|-------------------------------------------------------------|
R0001:C00203------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 04:UNC-3          2.00     .426 No_date   12:12   54.10  n/a      .000
                     +     1.0 06:POOL          19.30     .362 No_date   13:15   66.14  n/a      .000
                     +     1.0 07:OVF1            .00     .000 No_date    0:00     .00  n/a      .000
                     +     1.0 10:UNC-2          1.50     .241 No_date   12:14   69.97  n/a      .000
                  SUM=     1.0 02:900mm         22.80     .745 No_date   12:12   65.34  n/a      .000
#-----------------|-------------------------------------------------------------|
#-----------------|-------------------------------------------------------------|
#-----------------|----------OUTLET C-------------------------------------------|
#-----------------|-------------------------------------------------------------|
R0001:C00204------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD          1.0 04:EXT-4          2.60     .397 No_date   12:15   50.04 .463      .000
       [CN= 73.0: N= 3.00: Tp=  .13]
#-----------------|-------------------------------------------------------------|
R0001:C00205------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD          1.0 05:EXT-5          5.20     .853 No_date   12:14   50.04 .463      .000
       [CN= 73.0: N= 3.00: Tp=  .11]
#-----------------|-------------------------------------------------------------|
R0001:C00206------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD          1.0 08:INT-5           .10     .020 No_date   12:12   50.04 .463      .000
       [CN= 73.0: N= 3.00: Tp=  .05]
#-----------------|-------------------------------------------------------------|
#-----------------|-------------------------------------------------------------|
#-----------------|-------THE ADD HYD MODELS FLOW TO WC21A--------------------|
#-----------------|-------------------------------------------------------------|
R0001:C00207------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 04:EXT-4          2.60     .397 No_date   12:15   50.04  n/a      .000
                     +     1.0 05:EXT-5          5.20     .853 No_date   12:14   50.04  n/a      .000
                     +     1.0 08:INT-5           .10     .020 No_date   12:12   50.04  n/a      .000
                  SUM=     1.0 06:EXT4_5         7.90    1.265 No_date   12:14   50.04  n/a      .000
#-----------------|-------------------------------------------------------------|
R0001:C00208------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    1.0 06:EXT4_5         7.90    1.265 No_date   12:14   50.04  n/a      .000
      [RDT= 1.00] out<-    1.0 05:WC21A          7.90     .871 No_date   12:20   50.04  n/a      .000
       [L/S/n=  730./5.500/.070]
       {Vmax= 1.051:Dmax=  .393}
#-----------------|-------------------------------------------------------------|
R0001:C00209------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD          1.0 04:UNC-4          3.10     .100 No_date   12:25   18.24 .169      .000
       [CN= 36.7: N= 3.00: Tp=  .30]
#-----------------|-------------------------------------------------------------|
#-----------------|-------THE ADD HYD MODELS FLOW TO WC21A AT SITE------------|
#-----------------|-------------------------------------------------------------|
R0001:C00210------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 05:WC21A          7.90     .871 No_date   12:20   50.04  n/a      .000
                     +     1.0 04:UNC-4          3.10     .100 No_date   12:25   18.24  n/a      .000
                  SUM=     1.0 03:EXT_UNC       11.00     .965 No_date   12:20   41.08  n/a      .000
#-----------------|-------------------------------------------------------------|
#-----------------|-------------------------------------------------------------|
R0001:C00211------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD          1.0 07:Ext-6          6.00     .484 No_date   12:30   50.04 .463      .000
       [CN= 73.0: N= 3.00: Tp=  .39]
#-----------------|-------------------------------------------------------------|
R0001:C00212------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD          1.0 09:Ext-7          6.00     .758 No_date   12:18   50.04 .463      .000
       [CN= 73.0: N= 3.00: Tp=  .19]
#-----------------|-------------------------------------------------------------|
R0001:C00213------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD          1.0 10:Ext-8         13.10    1.123 No_date   12:30   53.83 .498      .000
       [CN= 75.2: N= 3.00: Tp=  .40]
#-----------------|-------------------------------------------------------------|
#-----------------|-------------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS SUBWATERSHED FLOW---------------|
#-----------------|-------------------------------------------------------------|
R0001:C00214------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 07:Ext-6          6.00     .484 No_date   12:30   50.04  n/a      .000
                     +     1.0 03:EXT_UNC       11.00     .965 No_date   12:20   41.08  n/a      .000
                     +     1.0 09:Ext-7          6.00     .758 No_date   12:18   50.04  n/a      .000
                     +     1.0 10:Ext-8         13.10    1.123 No_date   12:30   53.83  n/a      .000
                  SUM=     1.0 04:NE_DITCH      36.10    3.120 No_date   12:22   48.68  n/a      .000
#-----------------|-------------------------------------------------------------|
R0001:C00215------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD          1.0 06:Ext-9          7.00     .705 No_date   12:26   56.54 .523      .000
       [CN= 76.8: N= 3.00: Tp=  .34]
#-----------------|-------------------------------------------------------------|
#-----------------|-------------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS Subwatershed 21A Outflow--------|
#-----------------|-------------------------------------------------------------|
#-----------------|-------------------------------------------------------------|
R0001:C00216------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 04:NE_DITCH      36.10    3.120 No_date   12:22   48.68  n/a      .000
                     +     1.0 06:Ext-9          7.00     .705 No_date   12:26   56.54  n/a      .000
                  SUM=     1.0 05:21A           43.10    3.808 No_date   12:23   49.96  n/a      .000
#-----------------|-------------------------------------------------------------|
R0001:C00217------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD          1.0 04:Ext-10A       27.90    2.161 No_date   12:19   32.99 .305      .000
       [CN= 56.0: N= 3.00: Tp=  .20]
#-----------------|-------------------------------------------------------------|
R0001:C00218------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD          1.0 03:Ext-11         3.90     .722 No_date   12:13   51.47 .477      .000
       [CN= 72.9: N= 3.00: Tp=  .08]
#-----------------|-------------------------------------------------------------|
R0001:C00219------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD          1.0 06:Ext-12         5.20     .677 No_date   12:17   50.04 .463      .000
       [CN= 73.0: N= 3.00: Tp=  .18]
#-----------------|-------------------------------------------------------------|
#-----------------|-------------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS FLOW INTO EX. STORAGE AREA------|
#-----------------|-------------------------------------------------------------|
#-----------------|-------------------------------------------------------------|
R0001:C00220------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 01:825mm          4.50     .655 No_date   12:15   53.10  n/a      .000
                     +     1.0 02:900mm         22.80     .745 No_date   12:12   65.34  n/a      .000
                     +     1.0 04:Ext-10A       27.90    2.161 No_date   12:19   32.99  n/a      .000
                     +     1.0 03:Ext-11         3.90     .722 No_date   12:13   51.47  n/a      .000
                     +     1.0 06:Ext-12         5.20     .677 No_date   12:17   50.04  n/a      .000
                  SUM=     1.0 05:WET-STO       64.30    4.645 No_date   12:15   48.37  n/a      .000
#-----------------|-------------------------------------------------------------|
R0001:C00221------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 05:WET-STO       64.30    4.645 No_date   12:15   48.37  n/a      .000
                out <=     1.0 04:22            64.30     .466 No_date   15:44   48.37  n/a      .000
           overflow <=     1.0 06:OVF             .00     .000 No_date    0:00     .00  n/a      .000
    {MxStoUsed=.1137E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
#-----------------|-------------------------------------------------------------|
R0001:C00222------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CALIB NASHYD          1.0 03:Ext-10B        4.90     .415 No_date   12:17   33.14 .307      .000
       [CN= 54.6: N= 3.00: Tp=  .17]
#-----------------|-------------------------------------------------------------|
#-----------------|-------------------------------------------------------------|
#-----------------|  THE ADD HYD BELOW MODELS SUBWATERSHED 22 OUTFLOW --------|
#-----------------|-------------------------------------------------------------|
#-----------------|-------------------------------------------------------------|
R0001:C00223------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 03:Ext-10B        4.90     .415 No_date   12:17   33.14  n/a      .000
                     +     1.0 04:22            64.30     .466 No_date   15:44   48.37  n/a      .000
                     +     1.0 06:OVF             .00     .000 No_date    0:00     .00  n/a      .000
                  SUM=     1.0 05:22            69.20     .714 No_date   12:18   47.29  n/a      .000
R0001:C00224-----------------------------------------------------------------------------------------
     FINISH
-----------------------------------------------------------------------------------------------------
*****************************************************************************************************
      WARNINGS / ERRORS / NOTES
      -------------------------
    Simulation ended on 2022-02-10     at 16:18:14
=====================================================================================================
```

APPENDIX E

Stormwater Management Facility Calculations

CROZIER
CONSULTING ENGINEERS

Project No:	119-2528
Project:	Alta Phase II
File:	Water Quality
Design by:	J. Kerschbaumer
Checked by:	G. Cooper
Date:	2022-02-11

Post-Development Scenario Water Quality Requirements

Areas Contributing	Area (ha)	% Imp	25mm RV (mm)	25mm RV (m^3)
POST-1	19.70	21	6.55	1290
Total	**19.70**	**21**		**1290**

MOE Total WQ Volume (m^3/ha)	105
MOE ED Volume (m^3/ha)	40
MOE ED Volume (m^3)	788
MOE PP Volume (m^3/ha)	65
MOE PP Volume (m^3)	1281
Pond Required ED Volume (m^3)	1290
Pond Required PP Volume (m^3)	1281
Pond Required AS Volume (m^3)	5800

Project No:	119-2528
Project:	Alta Phase II
File:	Extended Detention
Design by:	J. Kerschbaumer
Checked by:	G. Cooper
Date:	2022-02-11

Extended Detention Specifications

(Per MECP)

Extended Detention Volume (Area x runoff from 25mm event)		1290
t (drawdown time - seconds, *hours in italics*)	*24.0*	86400
Ao (cross section area of orifice - sqm)		0.0113
h (maximum water elevation above orifice for extended detention- m)		0.20
C (discharge coefficient)		0.64
Ap (average surface area for extended detention - sqm)		3071

t = 2*Ap*(h^0.5)/(C*Ao*(g*2)^0.5)

Ao = 0.011 sqm   d = 120 mm

Extended Detention Orifice Diameter (as designed)   d = **120** mm

ACTUAL DRAWDOWN TIME

* Neglecting tailwater conditions*

Extended Detention Volume Used	4400
d (orifice diameter, mm)	120
h (maximum head acting on orifice for extended detention, m)	0.20
Ao (cross section area of orifice, m^2)	0.0113
C (discharge coefficient)	0.64
Ap (average surface area for extended detention, m^2)	3071

t = 2*Ap*(h^0.5)/(C*Ao*(g*2)^0.5)

t (hours)   24

Project No:	119-2528
Project:	Alta Phase II
File:	Stage-Storage-Discharge
Design by:	J. Kerschbaumer
Checked by:	G. Cooper
Date:	2022-02-11

CROZIER
CONSULTING ENGINEERS

Storage - Outflow Calculations

Outlet Structure			**Main Cell Spillway**		
E.D. Orifice Diameter:	0.12	m	Emergency Spill Elev.	218.65	m
E.D. Orifice Invert Elevation:	216.05	m	Emerg Spill Bot. Width	0.2	m
Extended Detention Depth:	0.20		Trap. Side Slopes	2	:1
Extended Detention Volume:	4400.00				
Extended Detention Surface Arec	3071.43				
Rect weir length	0.14	m			
Rect weir invert	216.25	m			

	Pond Dimensions				Outlet Structure			Cell Spillway			
	Elev.	Depth Above PP	Area	Storage Volume	ED Orifice Discharge	V-notch Discharge	Rect. Weir Discharge	Emerg. Weir Ave. Width	Emerg. Weir Discharge	Total Discharge	Storage
	(m)	(m)	(sqm)	(cu.m)	(cu.m/s)	(cu.m/s)	(cu.m/s)	(m)	(cu.m/s)	(cu.m/s)	(ha-m)
Permanent Pool	216.05	0.00	2700	0	0.000	0.000	0.000	0.000	0.000	**0.000**	**0.000**
	216.15	0.10	2886	629	0.006	0.000	0.000	0.000	0.000	0.006	0.063
Extended Detention	216.25	0.20	3071	1290	0.012	0.000	0.000	0.000	0.000	**0.012**	**0.129**
Weir	216.35	0.30	3257	1886	0.016	0.000	0.008	0.000	0.000	**0.024**	**0.189**
	216.45	0.40	3443	2514	0.019	0.000	0.023	0.000	0.000	**0.042**	**0.251**
	216.55	0.50	3629	3143	0.021	0.000	0.042	0.000	0.000	0.064	0.314
	216.65	0.60	3814	3771	0.024	0.000	0.065	0.000	0.000	**0.089**	**0.377**
	216.75	0.70	4000	4400	0.026	0.000	0.091	0.000	0.000	0.117	0.440
	216.85	0.80	4095	4805	0.028	0.000	0.120	0.000	0.000	0.147	0.480
	216.95	0.90	4190	5219	0.029	0.000	0.151	0.000	0.000	**0.180**	**0.522**
	217.05	1.00	4285	5643	0.031	0.000	0.184	0.000	0.000	0.215	0.564
	217.15	1.10	4380	6076	0.033	0.000	0.220	0.000	0.000	**0.253**	**0.608**
	217.25	1.20	4475	6519	0.034	0.000	0.258	0.000	0.000	**0.292**	**0.652**
	217.35	1.30	4570	6971	0.036	0.000	0.297	0.000	0.000	0.333	0.697
	217.45	1.40	4665	7433	0.037	0.000	0.339	0.000	0.000	0.376	0.743
Active Storage	217.55	1.50	4760	7904	0.038	0.000	0.382	0.000	0.000	**0.420**	**0.790**
	217.65	1.60	4855	8385	0.040	0.000	0.427	-3.800	0.000	0.467	0.838
	217.75	1.70	4950	8875	0.041	0.000	0.473	-3.400	0.000	0.514	0.887
	217.85	1.80	5055	9375	0.042	0.000	0.521	-3.000	0.000	0.564	0.938
	217.95	1.90	5160	9886	0.043	0.000	0.571	-2.600	0.000	0.614	0.989
	218.05	2.00	5265	10407	0.045	0.000	0.622	-2.200	0.000	0.667	1.041
	218.15	2.10	5370	10939	0.046	0.000	0.675	-1.800	0.000	0.720	1.094
	218.25	2.20	5475	11481	0.047	0.000	0.729	-1.400	0.000	0.776	1.148
	218.35	2.30	5580	12034	0.048	0.000	0.784	-1.000	0.000	0.832	1.203
	218.45	2.40	5685	12597	0.049	0.000	0.841	-0.600	0.000	0.890	1.260
Spillway	218.55	2.50	5790	13171	0.050	0.000	0.899	-0.200	0.000	**0.949**	**1.317**
	218.65	2.60	5895	13385	0.051	0.000	0.958	0.200	0.000	**1.009**	**1.339**
Regional	218.75	2.70	6000	13600	0.052	0.000	1.018	0.600	0.035	**1.105**	**1.360**

Project No:	119-2528
Project:	Alta Phase II
File:	Stage-Storage-Discharge
Design by:	J. Kerschbaumer
Checked by:	G. Cooper
Date:	2022-02-11

Permanent Pool Check

Pond Dimensions			
Elev.	Depth Above PP	Area	Storage Volume
(m)	(m)	(sqm)	(cu.m)
215.15	0.00	300	0
216.05	0.90	2700	1350

Project No:	119-2528
Project:	Alta Phase 2
File:	Forebay Design
Design by:	J. Kerschbaumer
Checked by:	G. Cooper
Date:	2022-02-11

FOREBAY DESIGN CALCULATIONS

	Variable	*Value*
Forebay Settling Length	Length of forebay (m)	32.0
	Width of forebay (m)	32.0
	Length-to-width ratio of forebay	1.0
	Peak flow rate from forebay in quality event (m^3/s)	0.024
	Settling velocity (m/s)	0.0003
	Required Forebay Length (m)	**9**
Dispersion Length	Inlet flowrate in 5 year event (m^3/s)	1.21
	Depth of of the permanent pool in the forebay (m)	0.90
	Desired velocity in the forebay (m/s)	0.5
	Length of Dispersion (m)	**22**
Velocity in Forebay Check	Depth of forebay in 10 year event (m)	1.80
	Cross sectional area (m^2)	63.0
	10 year event flowrate (m^3/s)	1.63
	Velocity in Forebay (m/s)*	**0.03**
Forebay Bottom Width	Length of forebay (m)	32.0
	Minimum Forbay Bottom Width (m)	**4.00**
DESIGN FOREBAY LENGTH (m)		**32.0**
DESIGN BOTTOM WIDTH (m)		**32.0**

* Desired maximum average velocity in the forebay is 0.15 m/s, per MOE, 2003, Page 4-56

Cross Section for Emergency Spillway

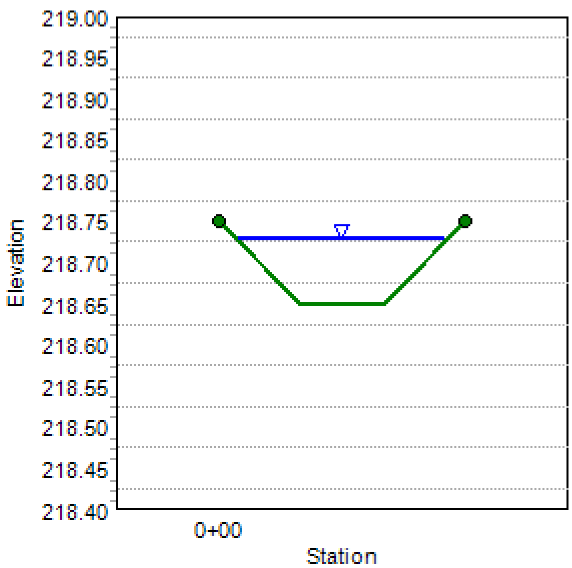
Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Channel Slope	0.47000	m/m
Normal Depth	0.08	m
Discharge	0.04	m³/s

Cross Section Image



Worksheet for Emergency Spillway

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Channel Slope	0.47000	m/m
Discharge	0.04	m³/s
Section Definitions		

Station (m)	Elevation (m)
0+00	218.75
0+00	218.65
0+00	218.65
0+01	218.75

Roughness Segment Definitions

Start Station	Ending Station	Roughness Coefficient
(0+00, 218.75)	(0+01, 218.75)	0.069

Options

Current Roughness Weighted Method	Pavlovskii's Method
Open Channel Weighting Method	Pavlovskii's Method
Closed Channel Weighting Method	Pavlovskii's Method

Results

Normal Depth	0.08	m
Elevation Range	218.65 to 218.75 m	
Flow Area	0.03	m²
Wetted Perimeter	0.54	m
Hydraulic Radius	0.05	m
Top Width	0.50	m
Normal Depth	0.08	m
Critical Depth	0.10	m
Critical Slope	0.12703	m/m

Worksheet for Emergency Spillway

Results

Velocity		1.33	m/s
Velocity Head		0.09	m
Specific Energy		0.17	m
Froude Number		1.86	
Flow Type	Supercritical		

GVF Input Data

Downstream Depth	0.00	m
Length	0.00	m
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	m
Profile Description		
Profile Headloss	0.00	m
Downstream Velocity	Infinity	m/s
Upstream Velocity	Infinity	m/s
Normal Depth	0.08	m
Critical Depth	0.10	m
Channel Slope	0.47000	m/m
Critical Slope	0.12703	m/m

APPENDIX F

Hydraulic Calculations

Proposed Overland Flow
Hydraulic Calculations

Cross Section for EXT-1

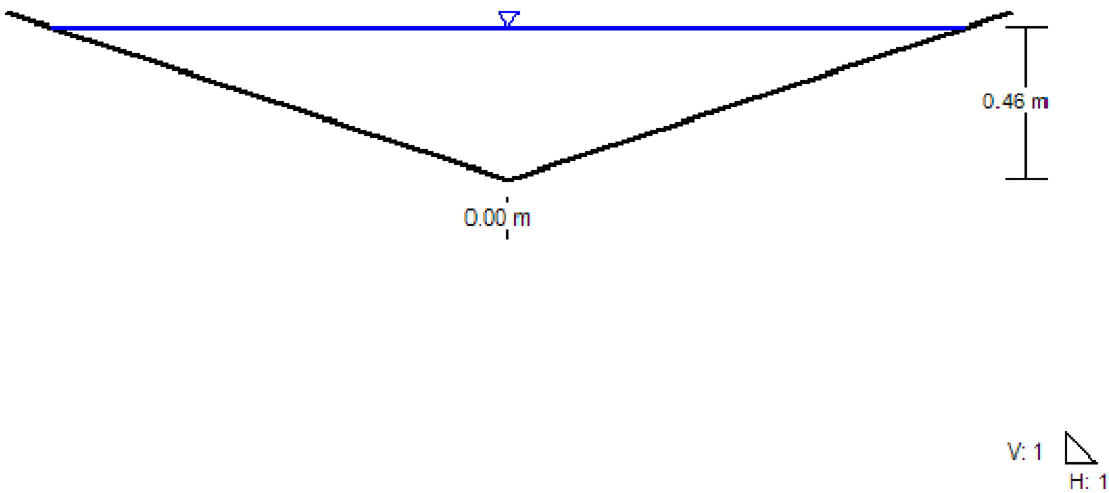
Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.050	
Channel Slope	0.01500	m/m
Normal Depth	0.46	m
Left Side Slope	3.00	m/m (H:V)
Right Side Slope	3.00	m/m (H:V)
Bottom Width	0.00	m
Discharge	0.56	m^3/s

Cross Section Image



Worksheet for EXT-1

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.050		
Channel Slope	0.01500	m/m	
Left Side Slope	3.00	m/m (H:V)	Section A-A (Figure 9)
Right Side Slope	3.00	m/m (H:V)	
Bottom Width	0.00	m	
Discharge	0.56	m³/s	Flow during 100 year SCS-12hr (EXT-1)

Results

Normal Depth	0.46	m	Depth during 100 year SCS-12hr (EXT-1)
Flow Area	0.63	m²	
Wetted Perimeter	2.90	m	
Hydraulic Radius	0.22	m	
Top Width	2.75	m	
Critical Depth	0.37	m	
Critical Slope	0.04608	m/m	
Velocity	0.89	m/s	
Velocity Head	0.04	m	
Specific Energy	0.50	m	
Froude Number	0.59		
Flow Type	Subcritical		

GVF Input Data

Downstream Depth	0.00	m
Length	0.00	m
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	m
Profile Description		
Profile Headloss	0.00	m
Downstream Velocity	Infinity	m/s
Upstream Velocity	Infinity	m/s
Normal Depth	0.46	m
Critical Depth	0.37	m
Channel Slope	0.01500	m/m
Critical Slope	0.04608	m/m

Cross Section for EXT-2

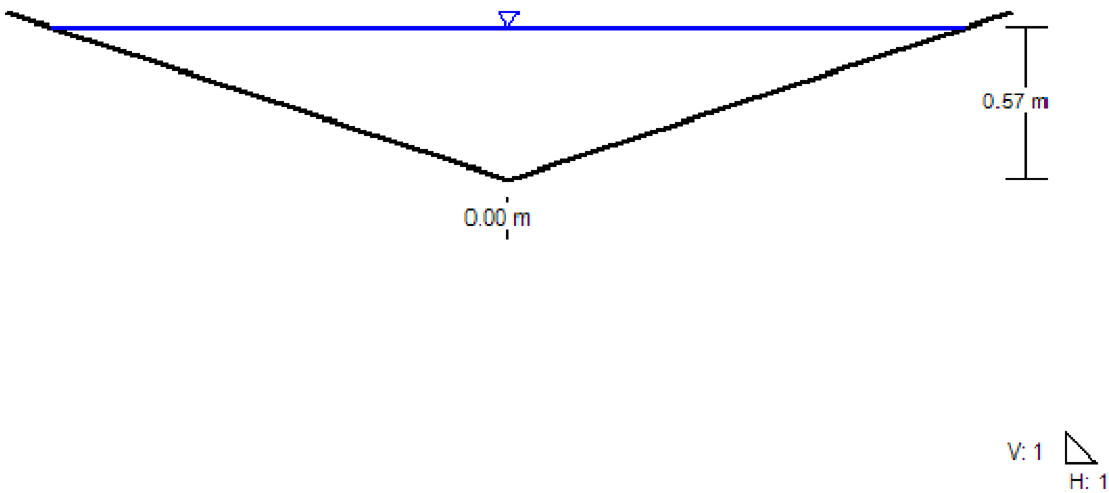
Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.050	
Channel Slope	0.00700	m/m
Normal Depth	0.57	m
Left Side Slope	3.00	m/m (H:V)
Right Side Slope	3.00	m/m (H:V)
Bottom Width	0.00	m
Discharge	0.68	m³/s

Cross Section Image



Worksheet for EXT-2

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.050		
Channel Slope	0.00700	m/m	
Left Side Slope	3.00	m/m (H:V)	Section A-A (Figure 9)
Right Side Slope	3.00	m/m (H:V)	
Bottom Width	0.00	m	
Discharge	0.68	m^3/s	Flow during 100 year SCS-12hr (EXT-2)

Results

Normal Depth	0.57	m	Depth during 100 year SCS-12hr (EXT-2)
Flow Area	0.97	m^2	
Wetted Perimeter	3.60	m	
Hydraulic Radius	0.27	m	
Top Width	3.42	m	
Critical Depth	0.40	m	
Critical Slope	0.04490	m/m	
Velocity	0.70	m/s	
Velocity Head	0.02	m	
Specific Energy	0.59	m	
Froude Number	0.42		
Flow Type	Subcritical		

GVF Input Data

Downstream Depth	0.00	m
Length	0.00	m
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	m
Profile Description		
Profile Headloss	0.00	m
Downstream Velocity	Infinity	m/s
Upstream Velocity	Infinity	m/s
Normal Depth	0.57	m
Critical Depth	0.40	m
Channel Slope	0.00700	m/m
Critical Slope	0.04490	m/m

Cross Section for EXT-3

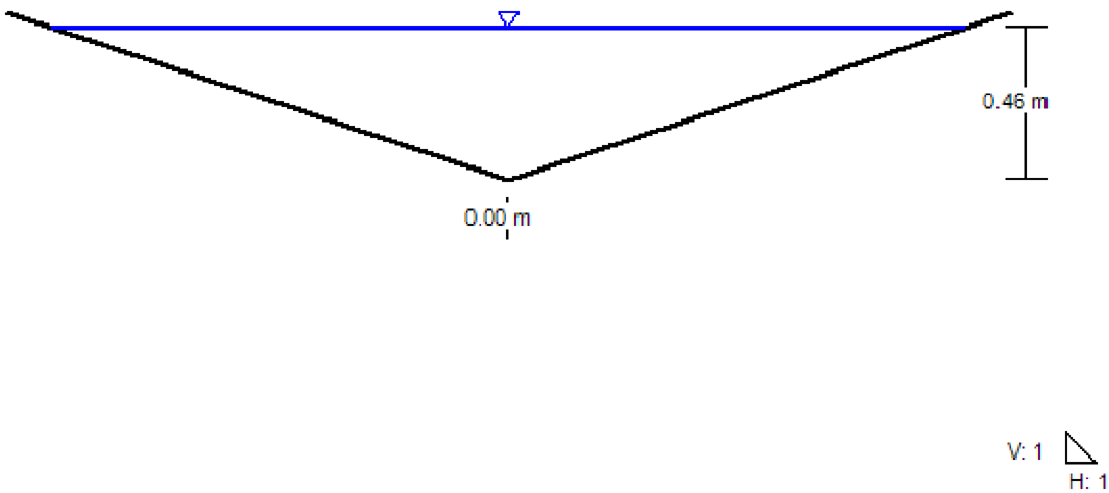
Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.050	
Channel Slope	0.00600	m/m
Normal Depth	0.46	m
Left Side Slope	3.00	m/m (H:V)
Right Side Slope	3.00	m/m (H:V)
Bottom Width	0.00	m
Discharge	0.35	m³/s

Cross Section Image



Worksheet for EXT-3

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.050	
Channel Slope	0.00600	m/m
Left Side Slope	3.00	m/m (H:V)
Right Side Slope	3.00	m/m (H:V)
Bottom Width	0.00	m
Discharge	0.35	m³/s

Section A-A (Figure 9)

Flow during 100 year SCS-12hr (EXT-3)

Results

Normal Depth	0.46	m
Flow Area	0.63	m²
Wetted Perimeter	2.89	m
Hydraulic Radius	0.22	m
Top Width	2.74	m
Critical Depth	0.31	m
Critical Slope	0.04906	m/m
Velocity	0.56	m/s
Velocity Head	0.02	m
Specific Energy	0.47	m
Froude Number	0.37	
Flow Type	Subcritical	

Depth during 100 year SCS-12hr (EXT-3)

GVF Input Data

Downstream Depth	0.00	m
Length	0.00	m
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	m
Profile Description		
Profile Headloss	0.00	m
Downstream Velocity	Infinity	m/s
Upstream Velocity	Infinity	m/s
Normal Depth	0.46	m
Critical Depth	0.31	m
Channel Slope	0.00600	m/m
Critical Slope	0.04906	m/m

Cross Section for EXT-4

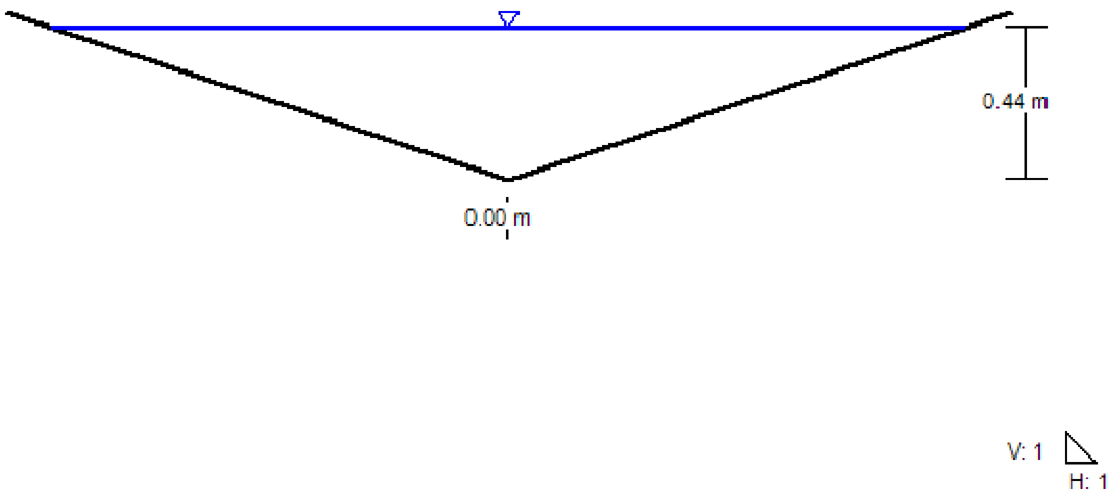
Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.050	
Channel Slope	0.01000	m/m
Normal Depth	0.44	m
Left Side Slope	3.00	m/m (H:V)
Right Side Slope	3.00	m/m (H:V)
Bottom Width	0.00	m
Discharge	0.42	m³/s

Cross Section Image



Worksheet for EXT-4

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.050		
Channel Slope	0.01000	m/m	
Left Side Slope	3.00	m/m (H:V)	Section A-A (Figure 9)
Right Side Slope	3.00	m/m (H:V)	
Bottom Width	0.00	m	
Discharge	0.42	m³/s	Flow during 100 year SCS-12hr (EXT-4)

Results

Normal Depth	0.44	m	Depth during 100 year SCS-12hr (EXT-4)
Flow Area	0.59	m²	
Wetted Perimeter	2.81	m	
Hydraulic Radius	0.21	m	
Top Width	2.67	m	
Critical Depth	0.33	m	
Critical Slope	0.04788	m/m	
Velocity	0.71	m/s	
Velocity Head	0.03	m	
Specific Energy	0.47	m	
Froude Number	0.48		
Flow Type	Subcritical		

GVF Input Data

Downstream Depth	0.00	m
Length	0.00	m
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	m
Profile Description		
Profile Headloss	0.00	m
Downstream Velocity	Infinity	m/s
Upstream Velocity	Infinity	m/s
Normal Depth	0.44	m
Critical Depth	0.33	m
Channel Slope	0.01000	m/m
Critical Slope	0.04788	m/m

Cross Section for EXT-5

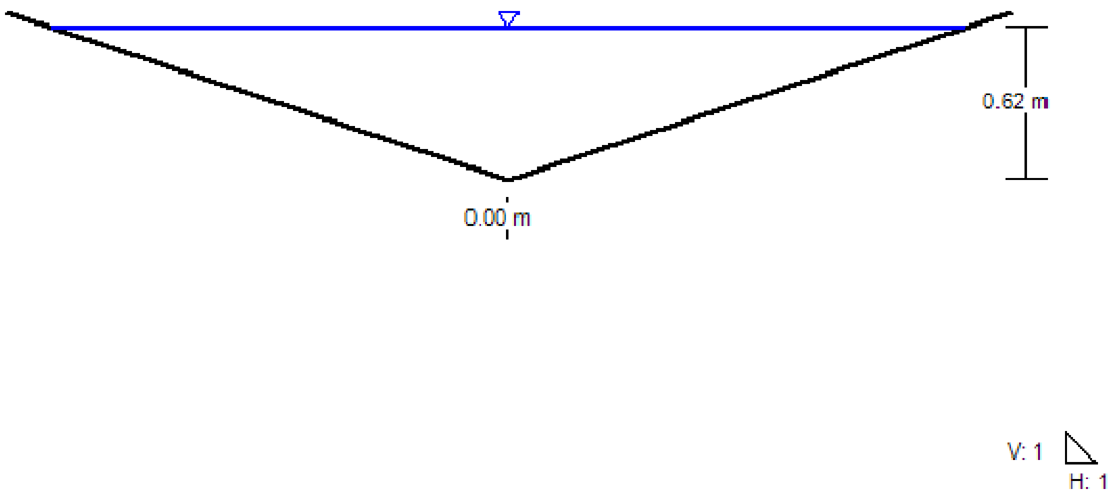
Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.050	
Channel Slope	0.00750	m/m
Normal Depth	0.62	m
Left Side Slope	3.00	m/m (H:V)
Right Side Slope	3.00	m/m (H:V)
Bottom Width	0.00	m
Discharge	0.90	m^3/s

Cross Section Image



Worksheet for EXT-5

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.050		
Channel Slope	0.00750	m/m	
Left Side Slope	3.00	m/m (H:V)	Section A-A (Figure 9)
Right Side Slope	3.00	m/m (H:V)	
Bottom Width	0.00	m	
Discharge	0.90	m³/s	Flow during 100 year SCS-12hr (EXT-5)

Results

Normal Depth	0.62	m	Depth during 100 year SCS-12hr (EXT-5)
Flow Area	1.17	m²	
Wetted Perimeter	3.95	m	
Hydraulic Radius	0.30	m	
Top Width	3.74	m	
Critical Depth	0.45	m	
Critical Slope	0.04327	m/m	
Velocity	0.77	m/s	
Velocity Head	0.03	m	
Specific Energy	0.65	m	
Froude Number	0.44		
Flow Type	Subcritical		

GVF Input Data

Downstream Depth	0.00	m
Length	0.00	m
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	m
Profile Description		
Profile Headloss	0.00	m
Downstream Velocity	Infinity	m/s
Upstream Velocity	Infinity	m/s
Normal Depth	0.62	m
Critical Depth	0.45	m
Channel Slope	0.00750	m/m
Critical Slope	0.04327	m/m

Cross Section for NE Bypass

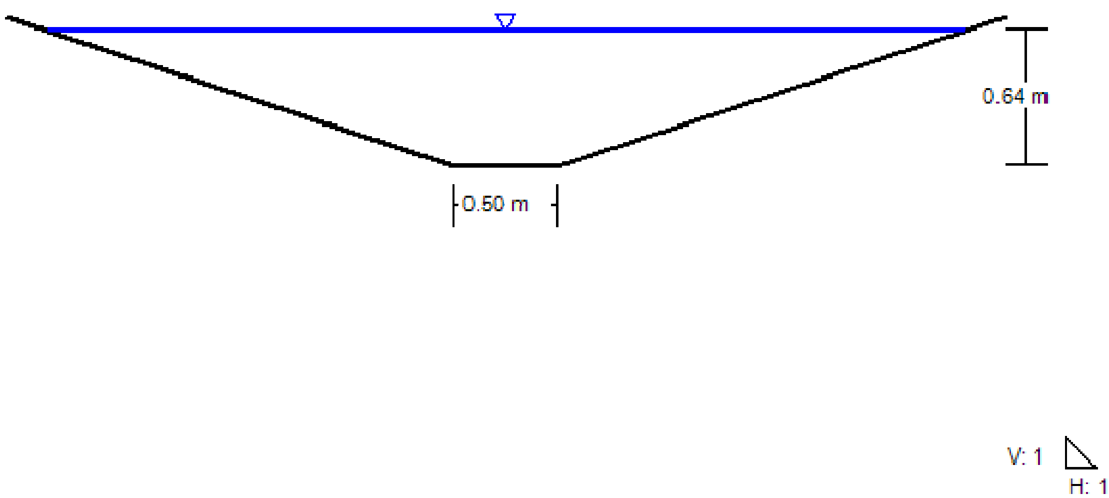
Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.050	
Channel Slope	0.00750	m/m
Normal Depth	0.64	m
Left Side Slope	3.00	m/m (H:V)
Right Side Slope	3.00	m/m (H:V)
Bottom Width	0.50	m
Discharge	1.32	m^3/s

Cross Section Image



Worksheet for NE Bypass

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Location: South of Lot 39

Input Data

Roughness Coefficient	0.050	
Channel Slope	0.00750	m/m
Left Side Slope	3.00	m/m (H:V)
Right Side Slope	3.00	m/m (H:V)
Bottom Width	0.50	m
Discharge	1.32	m³/s

Section B-B (Fig 9)

Combination of EXT-4 + EXT-5 (100 year SCS-12hr)

Results

Normal Depth	0.64	m
Flow Area	1.56	m²
Wetted Perimeter	4.56	m
Hydraulic Radius	0.34	m
Top Width	4.35	m
Critical Depth	0.45	m
Critical Slope	0.04082	m/m
Velocity	0.85	m/s
Velocity Head	0.04	m
Specific Energy	0.68	m
Froude Number	0.45	
Flow Type	Subcritical	

Depth during 100 year SCS-12hr

GVF Input Data

Downstream Depth	0.00	m
Length	0.00	m
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	m
Profile Description		
Profile Headloss	0.00	m
Downstream Velocity	Infinity	m/s
Upstream Velocity	Infinity	m/s
Normal Depth	0.64	m
Critical Depth	0.45	m
Channel Slope	0.00750	m/m
Critical Slope	0.04082	m/m

Sub-Watershed Study
Hydraulic Calculation Sheets

Worksheet for Culvert 1

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Tailwater Calculation for Culvert 1

Input Data

Channel Slope	0.07280	m/m
Discharge	1.21	m^3/s

Section Definitions

Station (m)	Elevation (m)
0+00	222.15
0+04	221.68
0+06	221.24
0+09	221.91
0+15	222.10

Roughness Segment Definitions

Start Station	Ending Station	Roughness Coefficient
(0+00, 222.15)	(0+15, 222.10)	0.030

Options

Current Roughness Weighted Method	Improved Lotter's Method
Open Channel Weighting Method	Improved Lotter's Method
Closed Channel Weighting Method	Horton's Method

Results

Normal Depth	0.32	m
Elevation Range	221.24 to 222.15 m	
Flow Area	0.46	m^2
Wetted Perimeter	2.96	m
Hydraulic Radius	0.16	m
Top Width	2.89	m
Normal Depth	0.32	m
Critical Depth	0.43	m
Critical Slope	0.01522	m/m
Velocity	2.61	m/s
Velocity Head	0.35	m
Specific Energy	0.67	m
Froude Number	2.08	
Flow Type	Supercritical	

Worksheet for Culvert 1

GVF Input Data

Downstream Depth	0.00	m
Length	0.00	m
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	m
Profile Description		
Profile Headloss	0.00	m
Downstream Velocity	Infinity	m/s
Upstream Velocity	Infinity	m/s
Normal Depth	0.32	m
Critical Depth	0.43	m
Channel Slope	0.07280	m/m
Critical Slope	0.01522	m/m

Cross Section for Culvert 1

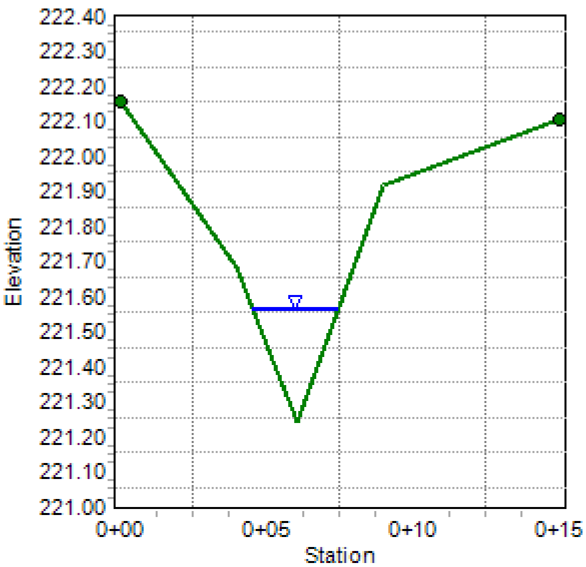
Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Channel Slope	0.07280	m/m
Normal Depth	0.32	m
Discharge	1.21	m³/s

Cross Section Image



Culvert Calculator Report
Culvert 1

Solve For: Discharge

Culvert Summary

Allowable HW Elevation	222.67	m	Headwater Depth/Height	1.56	
Computed Headwater Eleva	222.67	m	Discharge	1.2085	m³/s
Inlet Control HW Elev.	222.65	m	Tailwater Elevation	221.56	m
Outlet Control HW Elev.	222.67	m	Control Type	Entrance Control	

Grades

Upstream Invert	221.36	m	Downstream Invert	220.70	m
Length	9.90	m	Constructed Slope	0.066667	m/m

Hydraulic Profile

Profile	CompositePressureProfileS1S2		Depth, Downstream	0.86	m
Slope Type	N/A		Normal Depth	0.46	m
Flow Regime	N/A		Critical Depth	0.66	m
Velocity Downstream	2.19	m/s	Critical Slope	0.023882	m/m

Section

Section Shape	Circular		Mannings Coefficient	0.024	
Section Material	CMP		Span	0.84	m
Section Size	825 mm		Rise	0.84	m
Number Sections	1				

Outlet Control Properties

Outlet Control HW Elev.	222.67	m	Upstream Velocity Head	0.34	m
Ke	0.90		Entrance Loss	0.31	m

Inlet Control Properties

Inlet Control HW Elev.	222.65	m	Flow Control	N/A	
Inlet Type	Projecting		Area Full	0.6	m²
K	0.03400		HDS 5 Chart	2	
M	1.50000		HDS 5 Scale	3	
C	0.05530		Equation Form	1	
Y	0.54000				

Worksheet for Culvert 2

Project Description

Friction Method	Manning Formula	Tailwater Calculation for Culvert 2
Solve For	Normal Depth	

Input Data

Channel Slope	0.11000	m/m
Discharge	0.65	m³/s
Section Definitions		

Station (m)	Elevation (m)
0+00	221.34
0+08	221.40
0+12	220.02
0+13	220.58
0+19	221.19

Roughness Segment Definitions

Start Station	Ending Station	Roughness Coefficient
(0+00, 221.34)	(0+19, 221.19)	0.030

Options

Current Roughness Weighted Method	Improved Lotter's Method
Open Channel Weighting Method	Improved Lotter's Method
Closed Channel Weighting Method	Horton's Method

Results

Normal Depth	0.30	m
Elevation Range	220.02 to 221.40 m	
Flow Area	0.22	m²
Wetted Perimeter	1.56	m
Hydraulic Radius	0.14	m
Top Width	1.43	m
Normal Depth	0.30	m
Critical Depth	0.43	m
Critical Slope	0.01649	m/m
Velocity	2.98	m/s
Velocity Head	0.45	m
Specific Energy	0.76	m
Froude Number	2.43	
Flow Type	Supercritical	

Worksheet for Culvert 2

GVF Input Data

Downstream Depth	0.00	m
Length	0.00	m
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	m
Profile Description		
Profile Headloss	0.00	m
Downstream Velocity	Infinity	m/s
Upstream Velocity	Infinity	m/s
Normal Depth	0.30	m
Critical Depth	0.43	m
Channel Slope	0.11000	m/m
Critical Slope	0.01649	m/m

Cross Section for Culvert 2

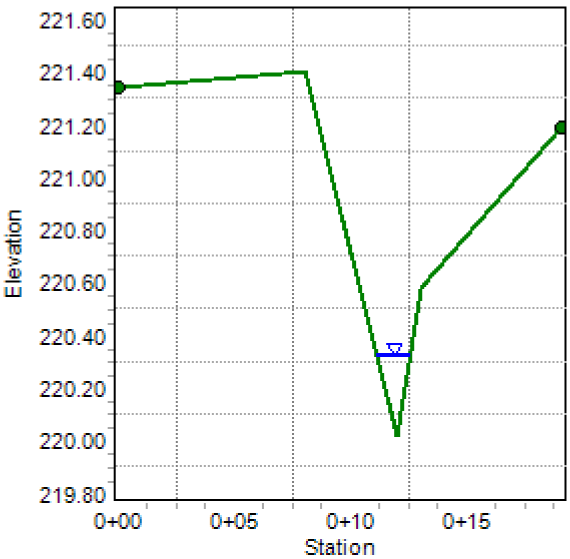
Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Channel Slope	0.11000	m/m
Normal Depth	0.30	m
Discharge	0.65	m³/s

Cross Section Image



Culvert Calculator Report
Culvert 2

Solve For: Discharge

Culvert Summary						
Allowable HW Elevation	221.60	m	Headwater Depth/Height	3.48	
Computed Headwater Eleva	221.60	m	Discharge	0.6470	m^3/s
Inlet Control HW Elev.	221.60	m	Tailwater Elevation	220.32	m
Outlet Control HW Elev.	221.58	m	Control Type	Inlet Control	

Grades					
Upstream Invert	220.54	m	Downstream Invert	220.42	m
Length	7.00	m	Constructed Slope	0.017143	m/m

Hydraulic Profile					
Profile	CompositeM2PressureProfile		Depth, Downstream	0.30	m
Slope Type	Mild		Normal Depth	N/A	m
Flow Regime	Subcritical		Critical Depth	0.30	m
Velocity Downstream	2.97	m/s	Critical Slope	0.041125	m/m

Section					
Section Shape	Circular		Mannings Coefficient	0.013	
Section Material	Concrete		Span	0.30	m
Section Size	300 mm		Rise	0.30	m
Number Sections	3				

Outlet Control Properties					
Outlet Control HW Elev.	221.58	m	Upstream Velocity Head	0.45	m
Ke	0.20		Entrance Loss	0.09	m

Inlet Control Properties					
Inlet Control HW Elev.	221.60	m	Flow Control	N/A	
Inlet Type	Groove end w/headwall		Area Full	0.2	m^2
K	0.00180		HDS 5 Chart	1	
M	2.00000		HDS 5 Scale	2	
C	0.02920		Equation Form	1	
Y	0.74000				

Culvert Calculator Report
Culvert 3

Solve For: Discharge

Culvert Summary					
Allowable HW Elevation	218.30	m	Headwater Depth/Height	1.15	
Computed Headwater Eleva	218.30	m	Discharge	0.9043	m³/s
Inlet Control HW Elev.	218.19	m	Tailwater Elevation	215.87	m
Outlet Control HW Elev.	218.30	m	Control Type	Entrance Control	

Grades					
Upstream Invert	217.34	m	Downstream Invert	215.87	m
Length	12.00	m	Constructed Slope	0.122500	m/m

Hydraulic Profile					
Profile	S2		Depth, Downstream	0.33	m
Slope Type	Steep		Normal Depth	0.33	m
Flow Regime	Supercritical		Critical Depth	0.57	m
Velocity Downstream	4.45	m/s	Critical Slope	0.018862	m/m

Section					
Section Shape	Circular		Mannings Coefficient	0.024	
Section Material	CMP		Span	0.84	m
Section Size	825 mm		Rise	0.84	m
Number Sections	1				

Outlet Control Properties					
Outlet Control HW Elev.	218.30	m	Upstream Velocity Head	0.26	m
Ke	0.50		Entrance Loss	0.13	m

Inlet Control Properties					
Inlet Control HW Elev.	218.19	m	Flow Control	N/A	
Inlet Type	Headwall		Area Full	0.6	m²
K	0.00780		HDS 5 Chart	2	
M	2.00000		HDS 5 Scale	1	
C	0.03790		Equation Form	1	
Y	0.69000				

No tailwater expected

Culvert Calculator Report
Culvert 4

Solve For: Discharge

Culvert Summary

Allowable HW Elevation	196.34	m	Headwater Depth/Height	2.19	
Computed Headwater Eleva	196.34	m	Discharge	1.9391	m³/s
Inlet Control HW Elev.	196.34	m	Tailwater Elevation	193.18	m
Outlet Control HW Elev.	196.12	m	Control Type	Inlet Control	

Grades

Upstream Invert	194.34	m	Downstream Invert	193.18	m
Length	7.00	m	Constructed Slope	0.165714	m/m

Hydraulic Profile

Profile	S2		Depth, Downstream	0.50	m
Slope Type	Steep		Normal Depth	0.44	m
Flow Regime	Supercritical		Critical Depth	0.80	m
Velocity Downstream	5.31	m/s	Critical Slope	0.032373	m/m

Section

Section Shape	Circular		Mannings Coefficient	0.024	
Section Material	CMP		Span	0.91	m
Section Size	900 mm		Rise	0.91	m
Number Sections	1				

Outlet Control Properties

Outlet Control HW Elev.	196.12	m	Upstream Velocity Head	0.51	m
Ke	0.90		Entrance Loss	0.46	m

Inlet Control Properties

Inlet Control HW Elev.	196.34	m	Flow Control	N/A	
Inlet Type	Projecting		Area Full	0.7	m²
K	0.03400		HDS 5 Chart	2	
M	1.50000		HDS 5 Scale	3	
C	0.05530		Equation Form	1	
Y	0.54000				

No tailwater expected

Worksheet for Culvert 5

Project Description

Friction Method	Manning Formula	Tailwater Calculation for Culvert 5
Solve For	Normal Depth	

Input Data

Channel Slope	0.01800	m/m
Discharge	1.29	m³/s
Section Definitions		

Station (m)	Elevation (m)
0+00	181.99
0+05	181.63
0+06	180.99
0+07	180.89
0+08	181.04
0+09	181.82
0+15	181.79

Roughness Segment Definitions

Start Station	Ending Station	Roughness Coefficient
(0+00, 181.99)	(0+15, 181.79)	0.030

Options

Current Roughness Weighted Method	Improved Lotter's Method
Open Channel Weighting Method	Improved Lotter's Method
Closed Channel Weighting Method	Horton's Method

Results

Normal Depth	0.38	m
Elevation Range	180.89 to 181.99 m	
Flow Area	0.73	m²
Wetted Perimeter	2.91	m
Hydraulic Radius	0.25	m
Top Width	2.73	m
Normal Depth	0.38	m
Critical Depth	0.40	m
Critical Slope	0.01472	m/m
Velocity	1.78	m/s
Velocity Head	0.16	m
Specific Energy	0.54	m

Cross Section for PRE D/S Culvert 4

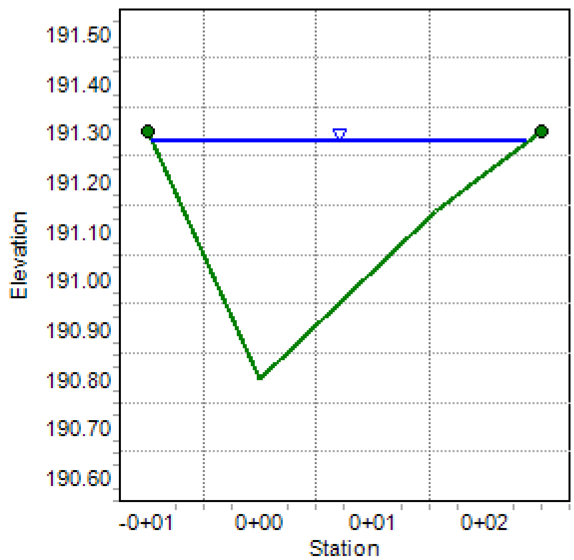
Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Channel Slope	0.01180	m/m
Normal Depth	0.48	m
Discharge	1.00	m³/s

Cross Section Image



Worksheet for PRE D/S Culvert 4

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Channel Slope	0.01180	m/m
Discharge	1.00	m³/s
Section Definitions		

Station (m)	Elevation (m)
-0+01	191.30
0+00	190.80
0+02	191.14
0+03	191.30

Roughness Segment Definitions

Start Station	Ending Station	Roughness Coefficient
(-0+01, 191.30)	(0+03, 191.30)	0.030

Options

Current Roughness Weighted Method	Improved Lotter's Method
Open Channel Weighting Method	Improved Lotter's Method
Closed Channel Weighting Method	Horton's Method

Results

Normal Depth	0.48	m
Elevation Range	190.80 to 191.30 m	
Flow Area	0.76	m²
Wetted Perimeter	3.48	m
Hydraulic Radius	0.22	m
Top Width	3.32	m
Normal Depth	0.48	m
Critical Depth	0.45	m
Critical Slope	0.01562	m/m

Worksheet for PRE D/S Culvert 4

Results

Velocity	1.31	m/s
Velocity Head	0.09	m
Specific Energy	0.56	m
Froude Number	0.88	
Flow Type	Subcritical	

GVF Input Data

Downstream Depth	0.00	m
Length	0.00	m
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	m
Profile Description		
Profile Headloss	0.00	m
Downstream Velocity	Infinity	m/s
Upstream Velocity	Infinity	m/s
Normal Depth	0.48	m
Critical Depth	0.45	m
Channel Slope	0.01180	m/m
Critical Slope	0.01562	m/m

Cross Section for POST D/S Culvert 4

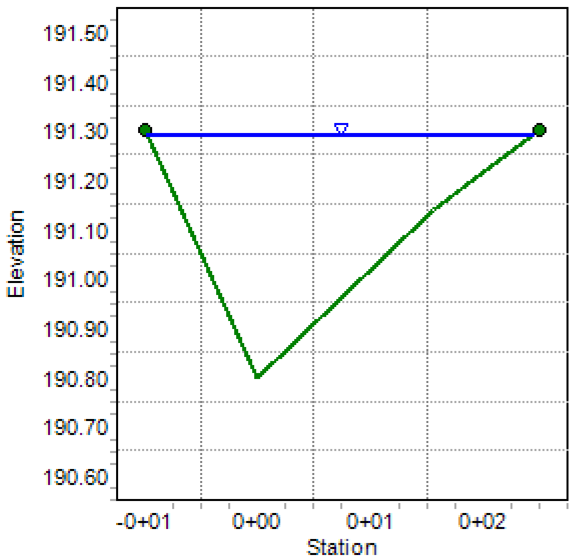
Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Channel Slope	0.01180	m/m
Normal Depth	0.49	m
Discharge	1.09	m^3/s

Cross Section Image



Worksheet for POST D/S Culvert 4

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Channel Slope	0.01180	m/m
Discharge	1.09	m³/s
Section Definitions		

Station (m)	Elevation (m)
-0+01	191.30
0+00	190.80
0+02	191.14
0+03	191.30

Roughness Segment Definitions

Start Station	Ending Station	Roughness Coefficient
(-0+01, 191.30)	(0+03, 191.30)	0.030

Options

Current Roughness Weighted Method	Improved Lotter's Method
Open Channel Weighting Method	Improved Lotter's Method
Closed Channel Weighting Method	Horton's Method

Results

Normal Depth	0.49	m
Elevation Range	190.80 to 191.30 m	
Flow Area	0.81	m²
Wetted Perimeter	3.60	m
Hydraulic Radius	0.23	m
Top Width	3.44	m
Normal Depth	0.49	m
Critical Depth	0.47	m
Critical Slope	0.01545	m/m

Worksheet for POST D/S Culvert 4

Results

Velocity		1.34	m/s
Velocity Head		0.09	m
Specific Energy		0.58	m
Froude Number		0.88	
Flow Type	Subcritical		

GVF Input Data

Downstream Depth	0.00	m
Length	0.00	m
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	m
Profile Description		
Profile Headloss	0.00	m
Downstream Velocity	Infinity	m/s
Upstream Velocity	Infinity	m/s
Normal Depth	0.49	m
Critical Depth	0.47	m
Channel Slope	0.01180	m/m
Critical Slope	0.01545	m/m

Worksheet for Culvert 5

Results

Froude Number		1.10	
Flow Type	Supercritical		

GVF Input Data

Downstream Depth	0.00	m
Length	0.00	m
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	m
Profile Description		
Profile Headloss	0.00	m
Downstream Velocity	Infinity	m/s
Upstream Velocity	Infinity	m/s
Normal Depth	0.38	m
Critical Depth	0.40	m
Channel Slope	0.01800	m/m
Critical Slope	0.01472	m/m

Cross Section for Culvert 5

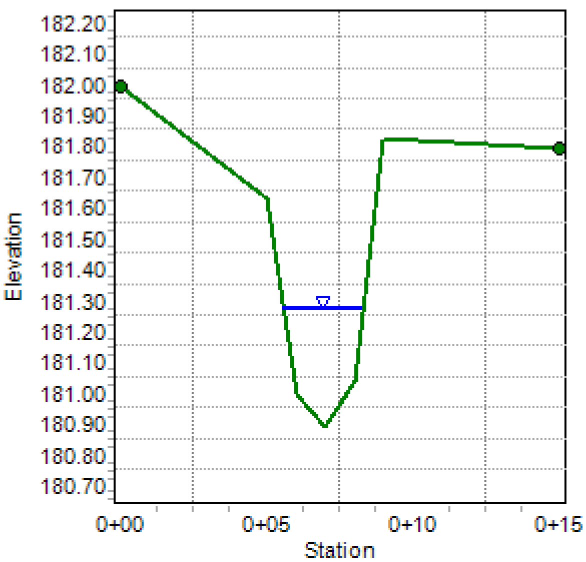
Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Channel Slope	0.01800	m/m
Normal Depth	0.38	m
Discharge	1.29	m³/s

Cross Section Image



Culvert Calculator Report
Culvert 5

Solve For: Discharge

Culvert Summary						
Allowable HW Elevation	182.46	m	Headwater Depth/Height	1.72	
Computed Headwater Eleva	182.46	m	Discharge	1.2913	m³/s
Inlet Control HW Elev.	182.46	m	Tailwater Elevation	181.27	m
Outlet Control HW Elev.	182.39	m	Control Type	Inlet Control	

Grades					
Upstream Invert	181.02	m	Downstream Invert	180.89	m
Length	8.73	m	Constructed Slope	0.014891	m/m

Hydraulic Profile					
Profile	CompositeM2PressureProfile		Depth, Downstream	0.68	m
Slope Type	Mild		Normal Depth	N/A	m
Flow Regime	Subcritical		Critical Depth	0.68	m
Velocity Downstream	2.69	m/s	Critical Slope	0.025698	m/m

Section					
Section Shape	Circular		Mannings Coefficient	0.024	
Section Material	CMP		Span	0.84	m
Section Size	825 mm		Rise	0.84	m
Number Sections	1				

Outlet Control Properties					
Outlet Control HW Elev.	182.39	m	Upstream Velocity Head	0.28	m
Ke	0.90		Entrance Loss	0.25	m

Inlet Control Properties					
Inlet Control HW Elev.	182.46	m	Flow Control	N/A	
Inlet Type	Projecting		Area Full	0.6	m²
K	0.03400		HDS 5 Chart	2	
M	1.50000		HDS 5 Scale	3	
C	0.05530		Equation Form	1	
Y	0.54000				

Worksheet for Culvert 6

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Tailwater Calculation for Culvert 6

Input Data

Channel Slope	0.00905	m/m
Discharge	0.66	m³/s

Section Definitions

Station (m)	Elevation (m)
0+00	179.88
0+07	179.88
0+08	179.41
0+09	179.40
0+11	180.11
0+17	180.03

Roughness Segment Definitions

Start Station	Ending Station	Roughness Coefficient
(0+00, 179.88)	(0+17, 180.03)	0.030

Options

Current Roughness Weighted Method	Improved Lotter's Method
Open Channel Weighting Method	Improved Lotter's Method
Closed Channel Weighting Method	Horton's Method

Results

Normal Depth	0.33	m
Elevation Range	179.40 to 180.11 m	
Flow Area	0.58	m²
Wetted Perimeter	2.73	m
Hydraulic Radius	0.21	m
Top Width	2.60	m
Normal Depth	0.33	m
Critical Depth	0.28	m
Critical Slope	0.01607	m/m
Velocity	1.13	m/s
Velocity Head	0.07	m
Specific Energy	0.39	m
Froude Number	0.76	

Worksheet for Culvert 6

Results

Flow Type	Subcritical	

GVF Input Data

Downstream Depth	0.00	m
Length	0.00	m
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	m
Profile Description		
Profile Headloss	0.00	m
Downstream Velocity	Infinity	m/s
Upstream Velocity	Infinity	m/s
Normal Depth	0.33	m
Critical Depth	0.28	m
Channel Slope	0.00905	m/m
Critical Slope	0.01607	m/m

Cross Section for Culvert 6

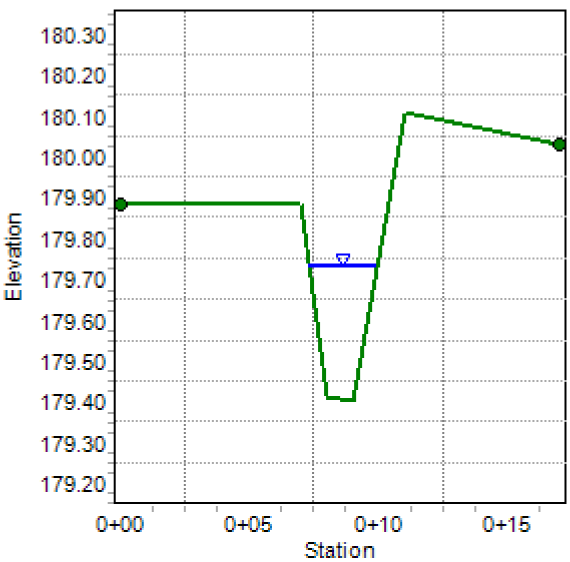
Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Channel Slope	0.00905	m/m
Normal Depth	0.33	m
Discharge	0.66	m³/s

Cross Section Image



Culvert Calculator Report
Culvert 6

Solve For: Discharge

Culvert Summary					
Allowable HW Elevation	180.55	m	Headwater Depth/Height	1.19	
Computed Headwater Eleva	180.55	m	Discharge	0.6603	m³/s
Inlet Control HW Elev.	180.49	m	Tailwater Elevation	179.73	m
Outlet Control HW Elev.	180.55	m	Control Type	Outlet Control	

Grades					
Upstream Invert	179.64	m	Downstream Invert	179.37	m
Length	15.37	m	Constructed Slope	0.017567	m/m

Hydraulic Profile					
Profile	M2		Depth, Downstream	0.50	m
Slope Type	Mild		Normal Depth	0.51	m
Flow Regime	Subcritical		Critical Depth	0.50	m
Velocity Downstream	2.08	m/s	Critical Slope	0.018625	m/m

Section					
Section Shape	Circular		Mannings Coefficient	0.024	
Section Material	CMP		Span	0.76	m
Section Size	750 mm		Rise	0.76	m
Number Sections	1				

Outlet Control Properties					
Outlet Control HW Elev.	180.55	m	Upstream Velocity Head	0.21	m
Ke	0.90		Entrance Loss	0.19	m

Inlet Control Properties					
Inlet Control HW Elev.	180.49	m	Flow Control	N/A	
Inlet Type	Projecting		Area Full	0.5	m²
K	0.03400		HDS 5 Chart	2	
M	1.50000		HDS 5 Scale	3	
C	0.05530		Equation Form	1	
Y	0.54000				

Worksheet for Culvert 7

Project Description

Friction Method	Manning Formula	Tailwater Calculation for Culvert 7
Solve For	Normal Depth	

Input Data

Channel Slope	0.06690	m/m
Discharge	1.18	m³/s
Section Definitions		

Station (m)	Elevation (m)
0+00	180.29
0+04	180.15
0+07	179.07
0+08	179.02
0+08	179.08
0+09	179.79
0+11	179.93

Roughness Segment Definitions

Start Station	Ending Station	Roughness Coefficient
(0+00, 180.29)	(0+11, 179.93)	0.030

Options

Current Roughness Weighted Method	Improved Lotter's Method
Open Channel Weighting Method	Improved Lotter's Method
Closed Channel Weighting Method	Horton's Method

Results

Normal Depth	0.31	m
Elevation Range	179.02 to 180.29 m	
Flow Area	0.42	m²
Wetted Perimeter	2.25	m
Hydraulic Radius	0.19	m
Top Width	2.07	m
Normal Depth	0.31	m
Critical Depth	0.44	m
Critical Slope	0.01532	m/m
Velocity	2.81	m/s
Velocity Head	0.40	m
Specific Energy	0.71	m

Worksheet for Culvert 7

Results

Froude Number		1.99	
Flow Type	Supercritical		

GVF Input Data

Downstream Depth	0.00	m
Length	0.00	m
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	m
Profile Description		
Profile Headloss	0.00	m
Downstream Velocity	Infinity	m/s
Upstream Velocity	Infinity	m/s
Normal Depth	0.31	m
Critical Depth	0.44	m
Channel Slope	0.06690	m/m
Critical Slope	0.01532	m/m

Cross Section for Culvert 7

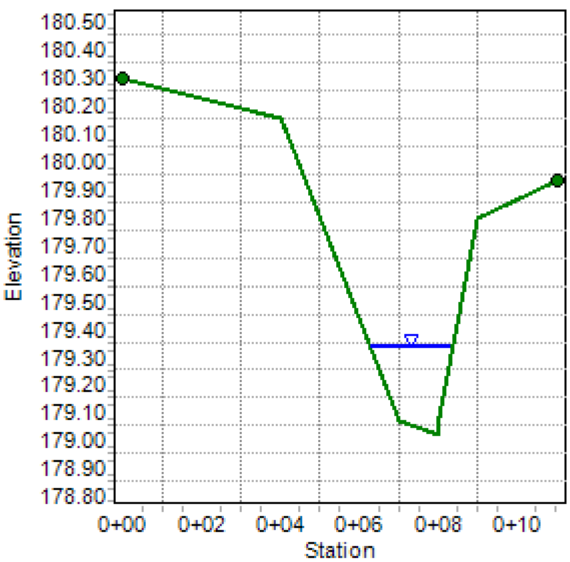
Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Channel Slope	0.06690	m/m
Normal Depth	0.31	m
Discharge	1.18	m³/s

Cross Section Image



Culvert Calculator Report
Culvert 7

Solve For: Discharge

Culvert Summary					
Allowable HW Elevation	180.20	m	Headwater Depth/Height	1.63	
Computed Headwater Elev	180.20	m	Discharge	1.1759	m³/s
Inlet Control HW Elev.	180.11	m	Tailwater Elevation	179.33	m
Outlet Control HW Elev.	180.20	m	Control Type	Outlet Control	

Grades					
Upstream Invert	178.83	m	Downstream Invert	178.82	m
Length	9.31	m	Constructed Slope	0.001074	m/m

Hydraulic Profile					
Profile	CompositeM2PressureProfile		Depth, Downstream	0.65	m
Slope Type	Mild		Normal Depth	N/A	m
Flow Regime	Subcritical		Critical Depth	0.65	m
Velocity Downstream	2.55	m/s	Critical Slope	0.023228	m/m

Section					
Section Shape	Circular		Mannings Coefficient	0.024	
Section Material	CMP		Span	0.84	m
Section Size	825 mm		Rise	0.84	m
Number Sections	1				

Outlet Control Properties					
Outlet Control HW Elev.	180.20	m	Upstream Velocity Head	0.23	m
Ke	0.90		Entrance Loss	0.21	m

Inlet Control Properties					
Inlet Control HW Elev.	180.11	m	Flow Control	N/A	
Inlet Type	Projecting		Area Full	0.6	m²
K	0.03400		HDS 5 Chart	2	
M	1.50000		HDS 5 Scale	3	
C	0.05530		Equation Form	1	
Y	0.54000				

Culvert Calculator Report
Culvert 8

Solve For: Discharge

Culvert Summary						
Allowable HW Elevation	180.73	m	Headwater Depth/Height	2.35	
Computed Headwater Eleva	180.73	m	Discharge	2.8402	m^3/s
Inlet Control HW Elev.	180.28	m	Tailwater Elevation	178.28	m
Outlet Control HW Elev.	180.73	m	Control Type	Outlet Control	

Grades					
Upstream Invert	178.58	m	Downstream Invert	178.28	m
Length	36.46	m	Constructed Slope	0.008228	m/m

Hydraulic Profile					
Profile	CompositeM2PressureProfile		Depth, Downstream	0.74	m
Slope Type	Mild		Normal Depth	N/A	m
Flow Regime	Subcritical		Critical Depth	0.74	m
Velocity Downstream	3.04	m/s	Critical Slope	0.024621	m/m

Section					
Section Shape	Arch		Mannings Coefficient	0.025	
Section Material	Steel and Aluminum Var CR Historic		Span	1.47	m
Section Size	1470 x 910 mm		Rise	0.91	m
Number Sections	1				

Outlet Control Properties					
Outlet Control HW Elev.	180.73	m	Upstream Velocity Head	0.37	m
Ke	0.90		Entrance Loss	0.33	m

Inlet Control Properties					
Inlet Control HW Elev.	180.28	m	Flow Control	N/A	
Inlet Type	Thin wall projecting		Area Full	1.1	m^2
K	0.03400		HDS 5 Chart	34	
M	1.50000		HDS 5 Scale	3	
C	0.04960		Equation Form	1	
Y	0.57000				

No tailwater expected

Culvert Calculator Report
Culvert 9

Solve For: Discharge

Culvert Summary

Allowable HW Elevation	185.21	m	Headwater Depth/Height	0.82	
Computed Headwater Eleva	185.21	m	Discharge	0.4805	m³/s
Inlet Control HW Elev.	185.14	m	Tailwater Elevation	184.52	m
Outlet Control HW Elev.	185.21	m	Control Type	Outlet Control	

Grades

Upstream Invert	184.65	m	Downstream Invert	184.52	m
Length	8.60	m	Constructed Slope	0.015116	m/m

Hydraulic Profile

Profile	M2		Depth, Downstream	0.31	m
Slope Type	Mild		Normal Depth	0.33	m
Flow Regime	Subcritical		Critical Depth	0.31	m
Velocity Downstream	1.64	m/s	Critical Slope	0.017714	m/m

Section

Section Shape	Arch		Mannings Coefficient	0.028	
Section Material	Aluminum 18 inch CR 3x1 Corrugations Historic		Span	1.09	m
Section Size	1090 x 690 mm		Rise	0.69	m
Number Sections	1				

Outlet Control Properties

Outlet Control HW Elev.	185.21	m	Upstream Velocity Head	0.12	m
Ke	0.90		Entrance Loss	0.11	m

Inlet Control Properties

Inlet Control HW Elev.	185.14	m	Flow Control	N/A	
Inlet Type	18 inch CR structural plate, projecting		Area Full	0.6	m²
K	0.03000		HDS 5 Chart	35	
M	1.50000		HDS 5 Scale	1	
C	0.04960		Equation Form	1	
Y	0.57000				

No tailwater expected

Culvert Calculator Report
Culvert 10

Solve For: Discharge

Culvert Summary						
Allowable HW Elevation	183.15	m	Headwater Depth/Height	1.10	
Computed Headwater Eleva	183.15	m	Discharge	1.1486	m³/s
Inlet Control HW Elev.	183.07	m	Tailwater Elevation	182.07	m
Outlet Control HW Elev.	183.15	m	Control Type	Entrance Control	

Grades					
Upstream Invert	182.31	m	Downstream Invert	182.07	m
Length	8.00	m	Constructed Slope	0.030000	m/m

Hydraulic Profile					
Profile	S2		Depth, Downstream	0.39	m
Slope Type	Steep		Normal Depth	0.39	m
Flow Regime	Supercritical		Critical Depth	0.47	m
Velocity Downstream	2.41	m/s	Critical Slope	0.017412	m/m

Section					
Section Shape	Circular		Mannings Coefficient	0.024	
Section Material	CMP		Span	0.76	m
Section Size	750 mm		Rise	0.76	m
Number Sections	2				

Outlet Control Properties					
Outlet Control HW Elev.	183.15	m	Upstream Velocity Head	0.20	m
Ke	0.90		Entrance Loss	0.18	m

Inlet Control Properties					
Inlet Control HW Elev.	183.07	m	Flow Control	N/A	
Inlet Type	Projecting		Area Full	0.9	m²
K	0.03400		HDS 5 Chart	2	
M	1.50000		HDS 5 Scale	3	
C	0.05530		Equation Form	1	
Y	0.54000				

No tailwater expected

Worksheet for Culvert 11

Project Description

Friction Method	Manning Formula	Tailwater Calculation for Culvert 11
Solve For	Normal Depth	

Input Data

Channel Slope	0.03086	m/m
Discharge	2.72	m³/s
Section Definitions		

Station (m)	Elevation (m)
0+00	180.50
0+07	180.31
0+08	179.80
0+09	179.77
0+09	179.77
0+10	180.45

Roughness Segment Definitions

Start Station	Ending Station	Roughness Coefficient
(0+00, 180.50)	(0+10, 180.45)	0.030

Options

Current Roughness Weighted Method	Improved Lotter's Method
Open Channel Weighting Method	Improved Lotter's Method
Closed Channel Weighting Method	Horton's Method

Results

Normal Depth	0.60	m
Elevation Range	179.77 to 180.50 m	
Flow Area	1.26	m²
Wetted Perimeter	5.58	m
Hydraulic Radius	0.22	m
Top Width	5.27	m
Normal Depth	0.60	m
Critical Depth	0.69	m
Critical Slope	0.01549	m/m
Velocity	2.17	m/s
Velocity Head	0.24	m
Specific Energy	0.84	m
Froude Number	1.42	

Worksheet for Culvert 11

Results

Flow Type	Supercritical	

GVF Input Data

Downstream Depth	0.00	m
Length	0.00	m
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	m
Profile Description		
Profile Headloss	0.00	m
Downstream Velocity	Infinity	m/s
Upstream Velocity	Infinity	m/s
Normal Depth	0.60	m
Critical Depth	0.69	m
Channel Slope	0.03086	m/m
Critical Slope	0.01549	m/m

Cross Section for Culvert 11

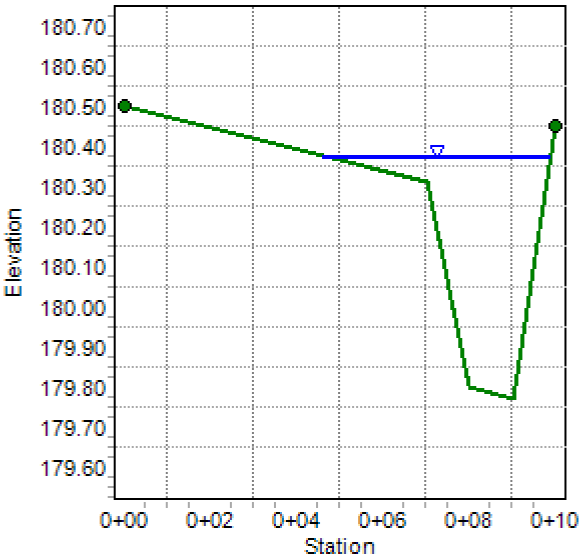
Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Channel Slope	0.03086	m/m
Normal Depth	0.60	m
Discharge	2.72	m³/s

Cross Section Image



Culvert Calculator Report
Culvert 11

Solve For: Discharge

Culvert Summary					
Allowable HW Elevation	181.60	m	Headwater Depth/Height	1.43	
Computed Headwater Eleva	181.60	m	Discharge	2.7182	m³/s
Inlet Control HW Elev.	181.45	m	Tailwater Elevation	180.37	m
Outlet Control HW Elev.	181.60	m	Control Type	Outlet Control	

Grades					
Upstream Invert	180.15	m	Downstream Invert	179.96	m
Length	31.35	m	Constructed Slope	0.006061	m/m

Hydraulic Profile					
Profile	CompositeM2PressureProfile		Depth, Downstream	0.69	m
Slope Type	Mild		Normal Depth	N/A	m
Flow Regime	Subcritical		Critical Depth	0.69	m
Velocity Downstream	2.70	m/s	Critical Slope	0.017183	m/m

Section					
Section Shape	Arch		Mannings Coefficient	0.025	
Section Material	Steel and Aluminum Var CR Historic		Span	1.65	m
Section Size	1650 x 1020 mm		Rise	1.02	m
Number Sections	1				

Outlet Control Properties					
Outlet Control HW Elev.	181.60	m	Upstream Velocity Head	0.22	m
Ke	0.90		Entrance Loss	0.20	m

Inlet Control Properties					
Inlet Control HW Elev.	181.45	m	Flow Control	N/A	
Inlet Type	Thin wall projecting		Area Full	1.3	m²
K	0.03400		HDS 5 Chart	34	
M	1.50000		HDS 5 Scale	3	
C	0.04960		Equation Form	1	
Y	0.57000				

APPENDIX G

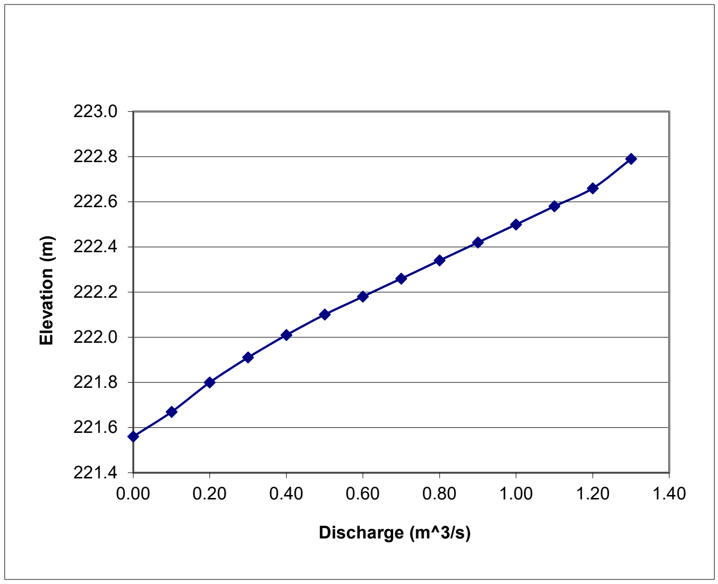
Culvert Data Sheets

CULVERT DATA

WATERCOURSE:	22	STRUCTURE NO.	1
LOCATION:	Hidden Lake Road		
		CAPACITY:	1.2 m^3/s
SIZE/TYPE:	825 mm CSP	RETURN PERIOD:	>100 yr

SPECIFICATIONS

LENGTH OF STRUCTURE:	9.90 m
TOP OF ROAD ELEVATION:	222.76 m
LOW CHORD ELEVATION:	222.19 m
MAX ALLOWABLE HEADWATER	222.67 m
UPSTREAM INVERT ELEVATION:	221.36 m
DOWNSTREAM INVERT ELEVATION:	220.70 m
FLOW AREA:	0.60 m^2



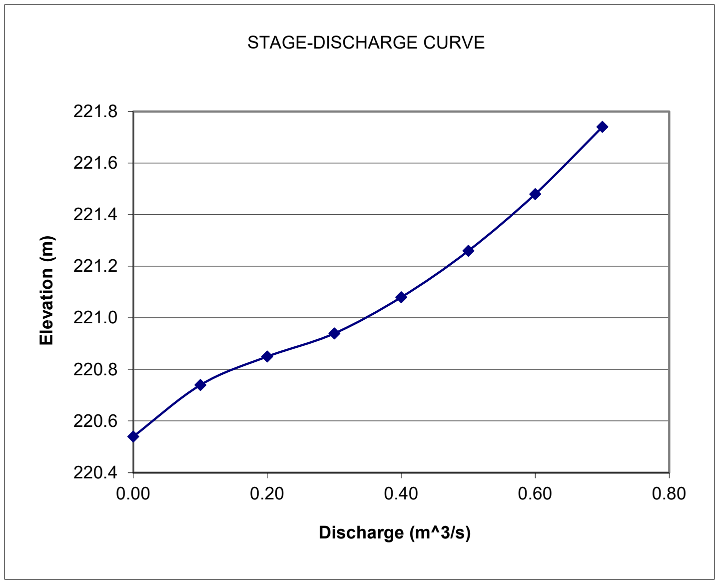
PHOTOGRAPHIC PRESENTATION

CULVERT DATA

WATERCOURSE:	22	STRUCTURE NO.	2
LOCATION:	Hidden Lake Road - Private Laneway		
		CAPACITY:	0.6 m^3/s
SIZE/TYPE:	3 X 300 mm Concrete	RETURN PERIOD:	>100 yr

SPECIFICATIONS

LENGTH OF STRUCTURE:	7.00 m
TOP OF ROAD ELEVATION:	221.60 m
LOW CHORD ELEVATION:	220.84 m
MAX ALLOWABLE HEADWATER	221.60 m
UPSTREAM INVERT ELEVATION:	220.54 m
DOWNSTREAM INVERT ELEVATION:	220.42 m
FLOW AREA:	0.20 m^2



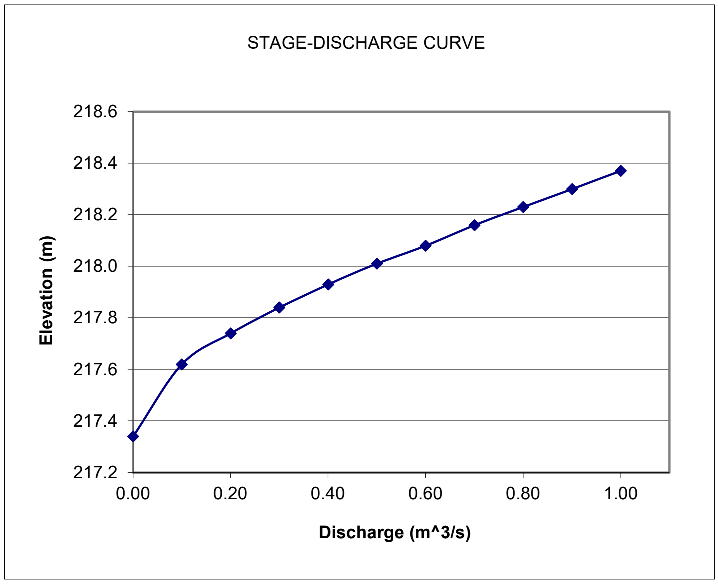
PHOTOGRAPHIC PRESENTATION

CULVERT DATA

WATERCOURSE:	22	STRUCTURE NO.	3
LOCATION:	Rear Yard		
		CAPACITY:	0.9 m^3/s
SIZE/TYPE:	825 mm CSP	RETURN PERIOD:	>100 yr

SPECIFICATIONS

LENGTH OF STRUCTURE:	12.00 m
TOP OF ROAD ELEVATION:	N/A m
LOW CHORD ELEVATION:	218.17 m
MAX ALLOWABLE HEADWATER	218.30 m
UPSTREAM INVERT ELEVATION:	217.34 m
DOWNSTREAM INVERT ELEVATION:	215.87 m
FLOW AREA:	0.60 m^2



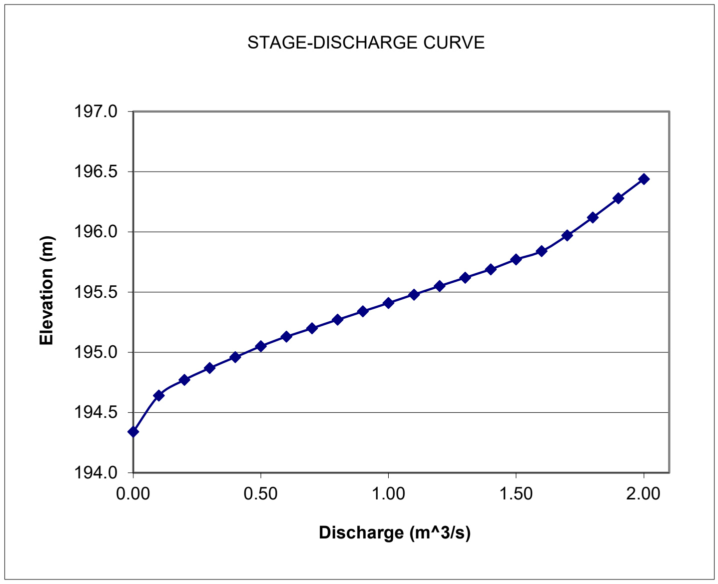
PHOTOGRAPHIC PRESENTATION

CULVERT DATA

WATERCOURSE:	22	STRUCTURE NO.	4
LOCATION:	Hidden Lake Road	CAPACITY:	1.9 m^3/s
SIZE/TYPE:	900 mm CSP	RETURN PERIOD:	>100 yr

SPECIFICATIONS

LENGTH OF STRUCTURE:	7.00 m
TOP OF ROAD ELEVATION:	196.34 m
LOW CHORD ELEVATION:	195.24 m
MAX ALLOWABLE HEADWATER	196.34 m
UPSTREAM INVERT ELEVATION:	194.34 m
DOWNSTREAM INVERT ELEVATION:	193.18 m
FLOW AREA:	0.70 m^2



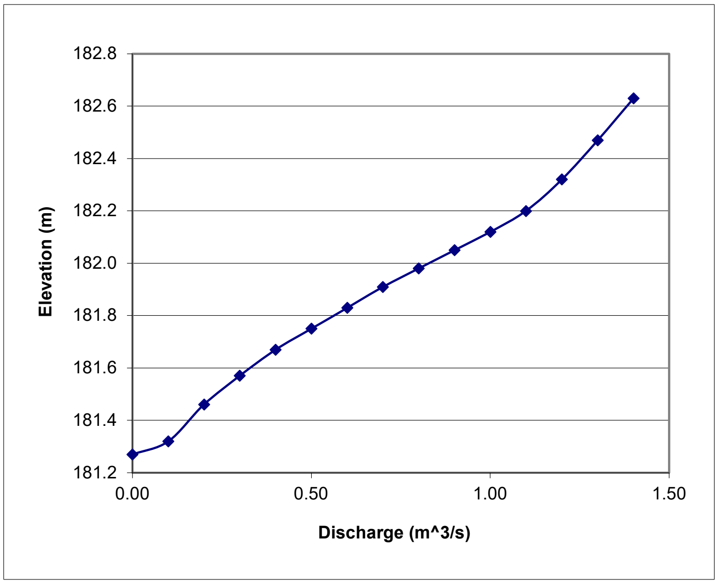
PHOTOGRAPHIC PRESENTATION

CULVERT DATA

WATERCOURSE:	22	STRUCTURE NO.	5
LOCATION:	Georgian Trail		
		CAPACITY:	1.3 m^3/s
SIZE/TYPE:	825 mm CSP	RETURN PERIOD:	>100 yr

SPECIFICATIONS

LENGTH OF STRUCTURE:	8.73 m
TOP OF ROAD ELEVATION:	182.46 m
LOW CHORD ELEVATION:	181.85 m
MAX ALLOWABLE HEADWATER	182.46 m
UPSTREAM INVERT ELEVATION:	181.02 m
DOWNSTREAM INVERT ELEVATION:	180.89 m
FLOW AREA:	0.60 m^2



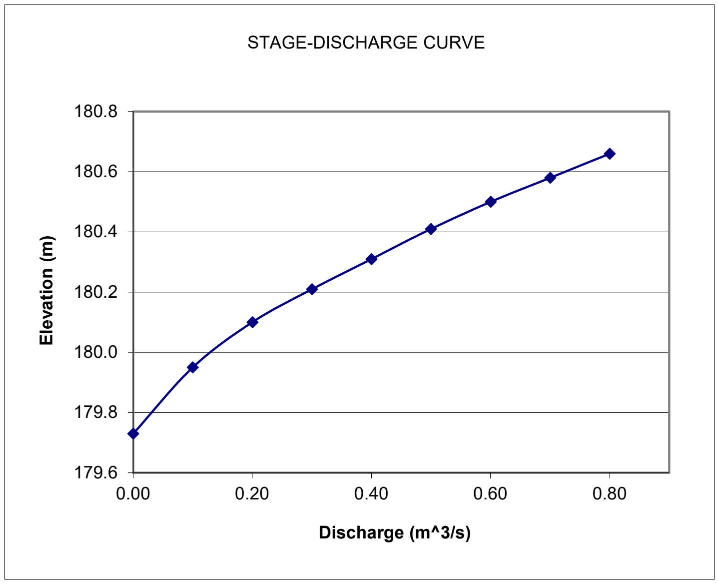
PHOTOGRAPHIC PRESENTATION

CULVERT DATA

WATERCOURSE:	22	STRUCTURE NO.	6
LOCATION:	Rear Yard		
		CAPACITY:	0.70 m^3/s
SIZE/TYPE:	750 mm CSP	RETURN PERIOD:	>100 yr

SPECIFICATIONS

LENGTH OF STRUCTURE:	15.37 m
TOP OF ROAD ELEVATION:	NA m
LOW CHORD ELEVATION:	180.39 m
MAX ALLOWABLE HEADWATER	180.55 m
UPSTREAM INVERT ELEVATION:	179.64 m
DOWNSTREAM INVERT ELEVATION:	179.37 m
FLOW AREA:	0.50 m^2



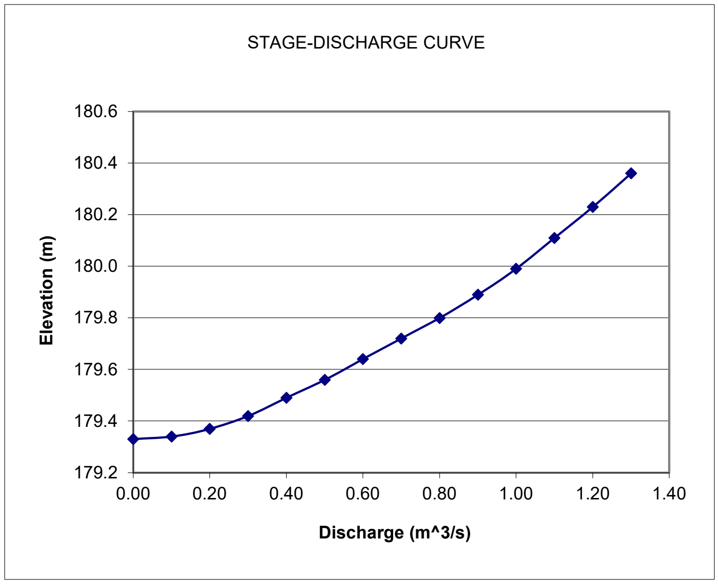
PHOTOGRAPHIC PRESENTATION

CULVERT DATA

WATERCOURSE:	22	STRUCTURE NO.	7
LOCATION:	Private Driveway		
		CAPACITY:	1.2 m^3/s
SIZE/TYPE:	825 mm CSP	RETURN PERIOD:	>100 yr

SPECIFICATIONS

LENGTH OF STRUCTURE:	9.31 m
TOP OF ROAD ELEVATION:	N/A m
LOW CHORD ELEVATION:	179.66 m
MAX ALLOWABLE HEADWATER	180.20 m
UPSTREAM INVERT ELEVATION:	178.83 m
DOWNSTREAM INVERT ELEVATION:	178.82 m
FLOW AREA:	0.60 m^2



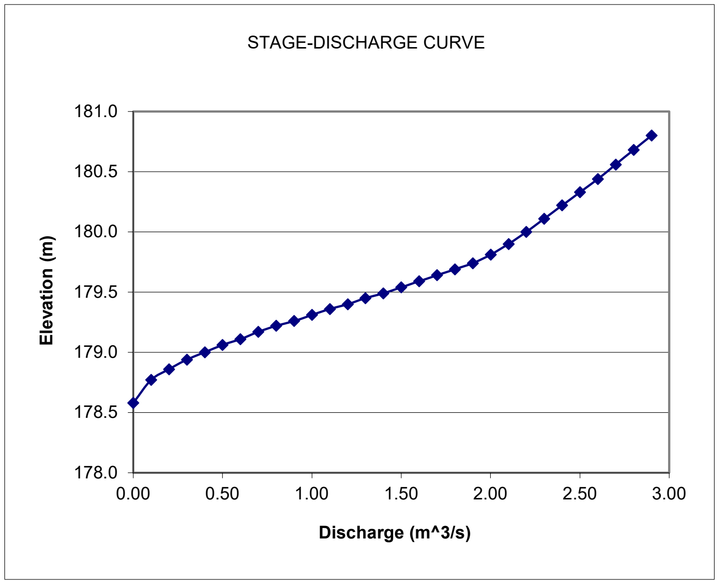
PHOTOGRAPHIC PRESENTATION

CULVERT DATA

WATERCOURSE:	22	STRUCTURE NO.	8
LOCATION:	Highway 26	CAPACITY:	2.8 m^3/s
SIZE/TYPE:	1470 X 910 mm CSP	RETURN PERIOD:	>100 yr

SPECIFICATIONS

LENGTH OF STRUCTURE:	36.46 m
TOP OF ROAD ELEVATION:	180.73 m
LOW CHORD ELEVATION:	179.49 m
MAX ALLOWABLE HEADWATER	180.73 m
UPSTREAM INVERT ELEVATION:	178.58 m
DOWNSTREAM INVERT ELEVATION:	178.28 m
FLOW AREA:	1.10 m^2



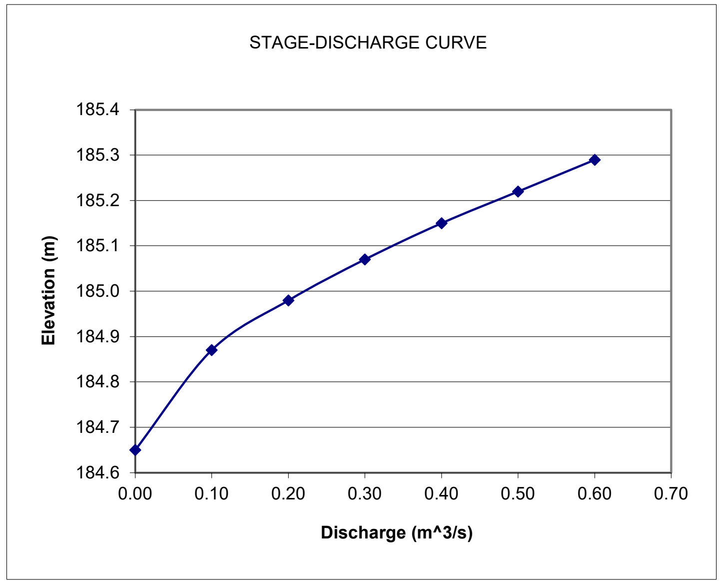
PHOTOGRAPHIC PRESENTATION

CULVERT DATA

WATERCOURSE:	21A	STRUCTURE NO.	9
LOCATION:	Private Driveways along Hidden Lake Road	CAPACITY:	0.5 m^3/s
SIZE/TYPE:	1090 x 690 mm CSP Arch	RETURN PERIOD:	>100 yr

SPECIFICATIONS

LENGTH OF STRUCTURE:	8.60 m
TOP OF ROAD ELEVATION:	185.50 m
LOW CHORD ELEVATION:	185.34 m
MAX ALLOWABLE HEADWATER	185.50 m
UPSTREAM INVERT ELEVATION:	184.65 m
DOWNSTREAM INVERT ELEVATION:	184.52 m
FLOW AREA:	0.60 m^2



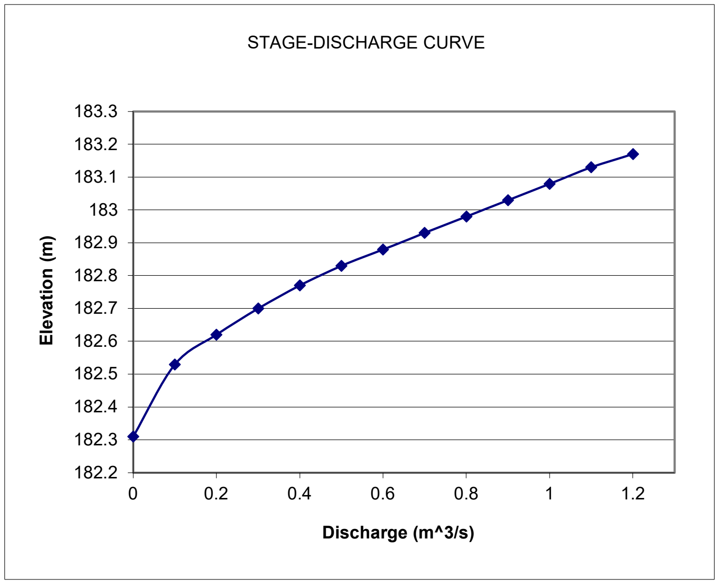
PHOTOGRAPHIC PRESENTATION

CULVERT DATA

WATERCOURSE:	21A	STRUCTURE NO.	10
LOCATION:	Georgian Trail		
		CAPACITY:	1.1 m^3/s
SIZE/TYPE:	2 x 750 mm CSP	RETURN PERIOD:	>100 yr

SPECIFICATIONS

LENGTH OF STRUCTURE:	8.00 m
TOP OF ROAD ELEVATION:	183.15 m
LOW CHORD ELEVATION:	183.06 m
MAX ALLOWABLE HEADWATER	183.15 m
UPSTREAM INVERT ELEVATION:	182.31 m
DOWNSTREAM INVERT ELEVATION:	182.07 m
FLOW AREA:	0.90 m^2



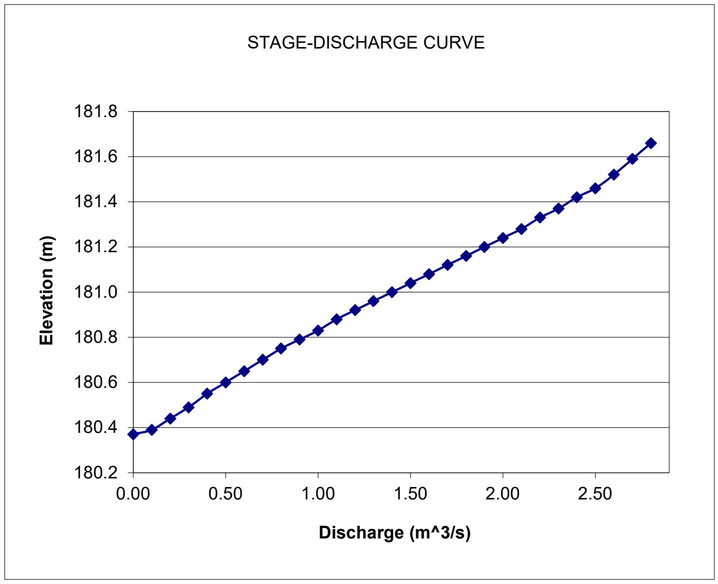
PHOTOGRAPHIC PRESENTATION

CULVERT DATA

WATERCOURSE:	21A	STRUCTURE NO.	11
LOCATION:	Highway 26		
		CAPACITY:	2.7 m^3/s
SIZE/TYPE:	1650 x 1020 mm CSP elipse	RETURN PERIOD:	>100 yr

SPECIFICATIONS

LENGTH OF STRUCTURE:	31.35 m
TOP OF ROAD ELEVATION:	181.60 m
LOW CHORD ELEVATION:	181.10 m
MAX ALLOWABLE HEADWATER	181.60 m
UPSTREAM INVERT ELEVATION:	180.15 m
DOWNSTREAM INVERT ELEVATION:	179.96 m
FLOW AREA:	1.30 m^2



PHOTOGRAPHIC PRESENTATION

LIST OF FIGURES

CROZIER
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705-446-3520 F
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info@cfcrozier.ca

PROJECT ALTA SUBDIVISION PHASE II TOWN OF THE BLUE MOUNTAINS	DRAWN BY: J.O.	PROJECT No.: 119–2528–201
	DATE: 06/28/2021	SCALE: N.T.S.
TITLE SITE LOCATION PLAN	DRAWING No.: FIG. 1	

NOTE: TOPOGRAPHIC SURVEY PER PATTEN & THOMSEN.
(DISPLAYED CONTOUR INTERVAL, 1.0m)

Project
ALTA SUBDIVISION PHASE II
TOWN OF THE BLUE MOUNTAINS

Drawing
DRAFT PLAN

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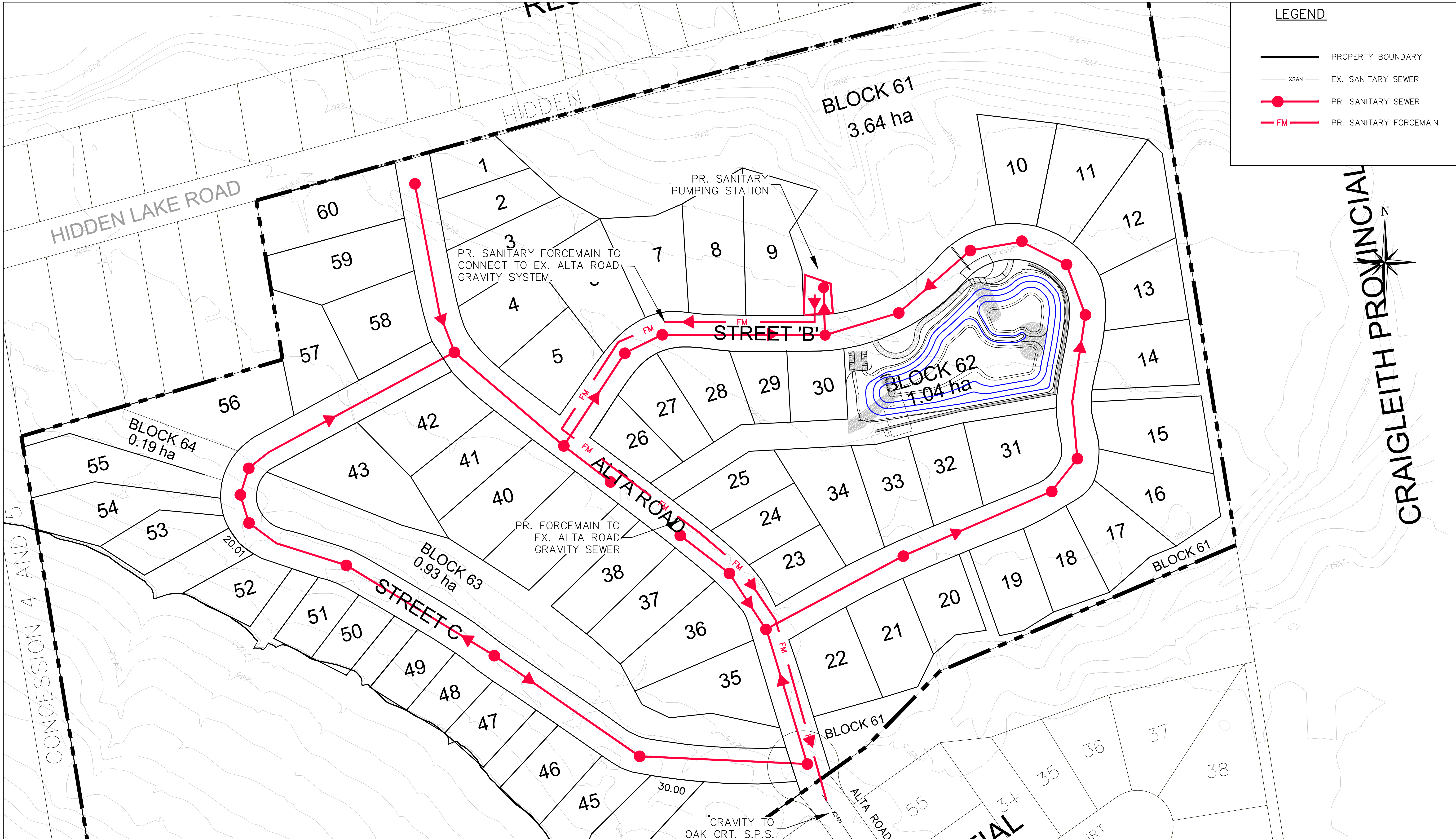
Drawn By J.O.	Check By Z.H. & G.C.	Project No. 119-2528-202
Scale 1:2500	Date 06/28/2021	Drawing No. FIG. 2

J:\100\119 - Tabera Ltd\2528\Cad\2528_201-202.dwg, FIG. 2 (202), 2022-02-14 4:47:38 PM, lwaters



50 0m 50 100 150

SCALE: 1:2000

NOTE: 2.5m CONTOURS GENERATED FROM ARIAL SURVEY.

Project	ALTA SUBDIVISION PHASE II TOWN OF THE BLUE MOUNTAINS
Drawing	PRELIMINARY INTERNAL SANITARY SERVICING PLAN

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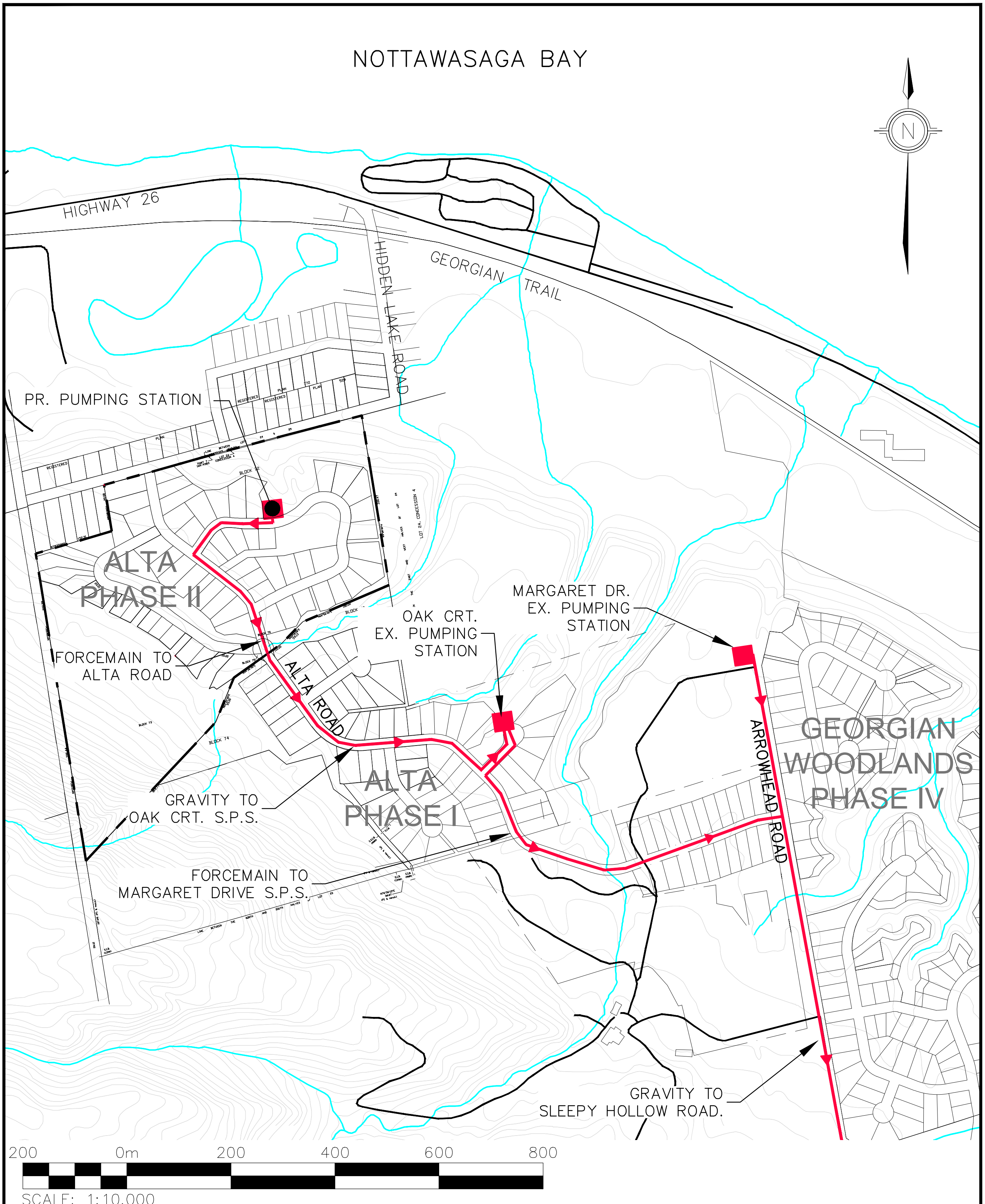
Drawn By	J.O.	Check By	Z.H., G.C.	Project No.	119-2528-210
Scale	1:2000	Date	06/28/2021	Drawing No.	FIG. 3

J:\100\119 - Tabera Ltd\2528\Cad\2528_203-207, 209-210.dwg, FIG. 3 (210), 2022-02-14 1:58:04 PM, lwaters



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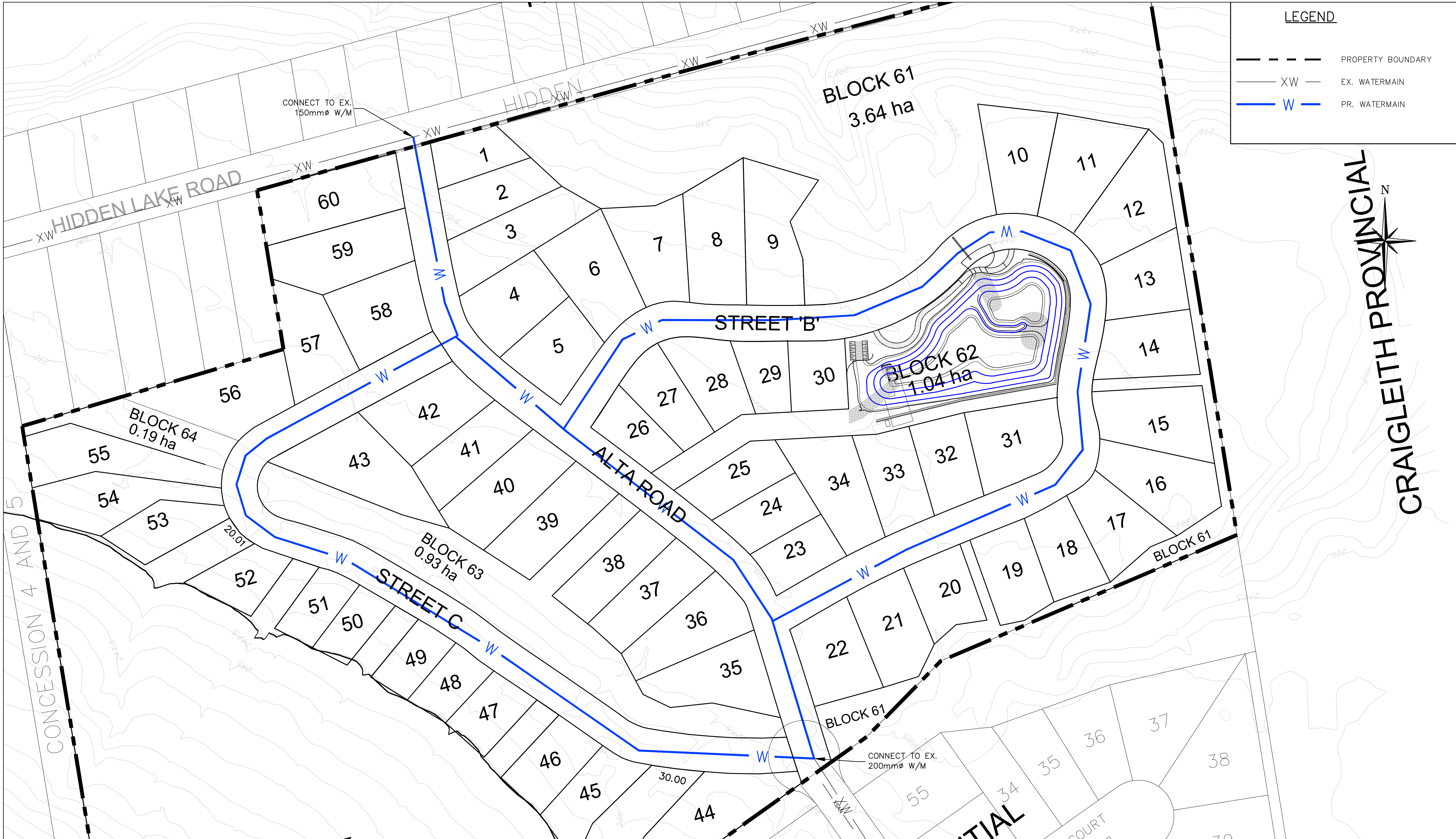
PROJECT ALTA SUBDIVISION PHASE II TOWN OF THE BLUE MOUNTAINS	DRAWN BY: J.O.	PROJECT No.: 119–2528–211
	DATE: 06/28/2021	SCALE: 1:10 000
TITLE OVERALL SANITARY DRAINAGE PLAN	DRAWING No.: FIG. 4	



NOTE: 2.5m CONTOURS GENERATED FROM ARIAL SURVEY.

SCALE: 1:2000 (50, 0m, 50, 100, 150)

Project: ALTA SUBDIVISION PHASE II
TOWN OF THE BLUE MOUNTAINS

Drawing: PRELIMINARY WATER DISTRIBUTION PLAN

CROZIER CONSULTING ENGINEERS

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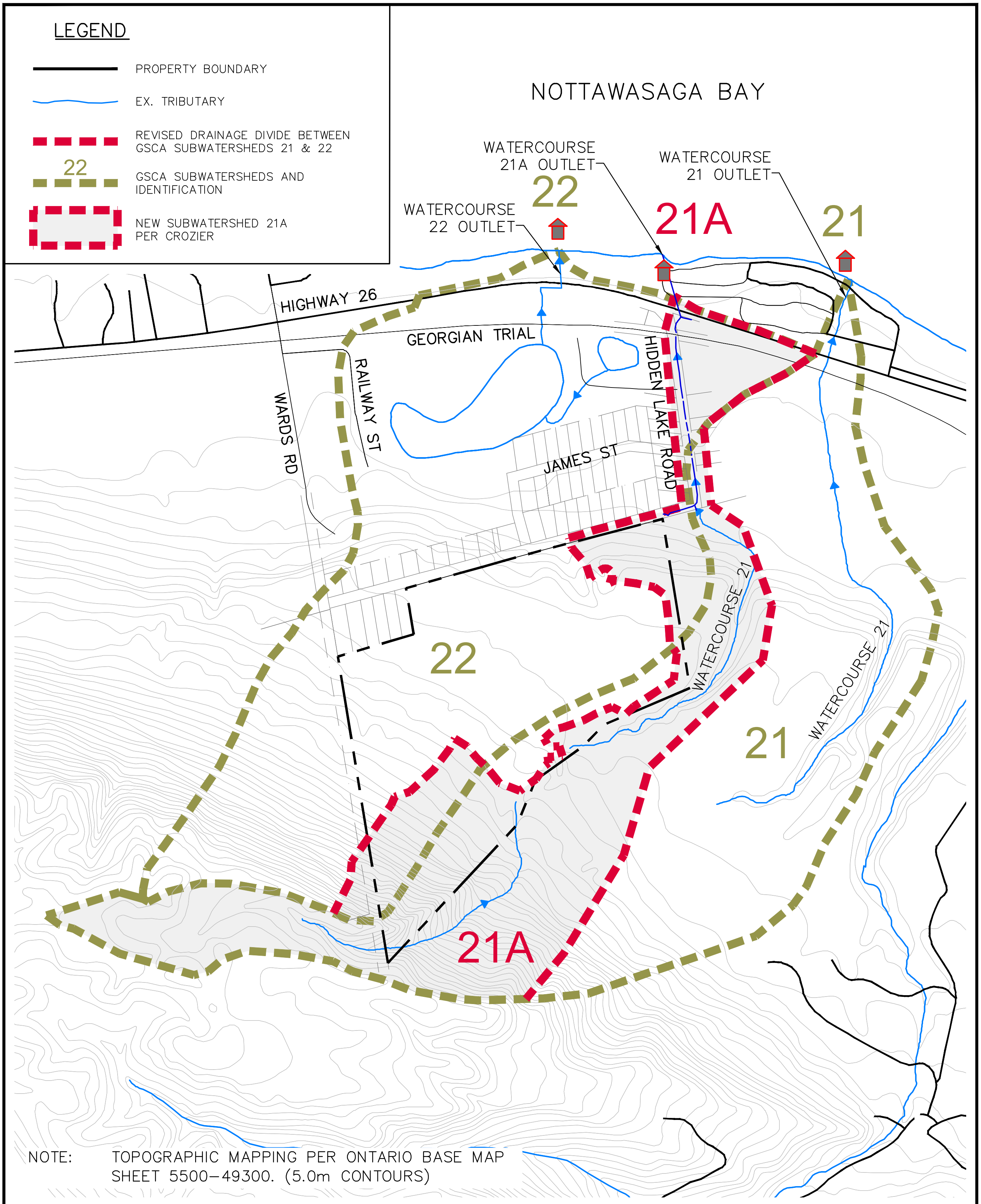
Drawn By	J.O.	Check By	Z.H., G.C.	Project No.	119-2528-209
Scale	1:2000	Date	06/28/2021	Drawing No.	FIG. 5

J:\100\119 - Tabera Ltd\2528\Cad\2528_203-207, 209-210.dwg, FIG. 5 (209), 2022-02-14 2:03:10 PM, lwaters



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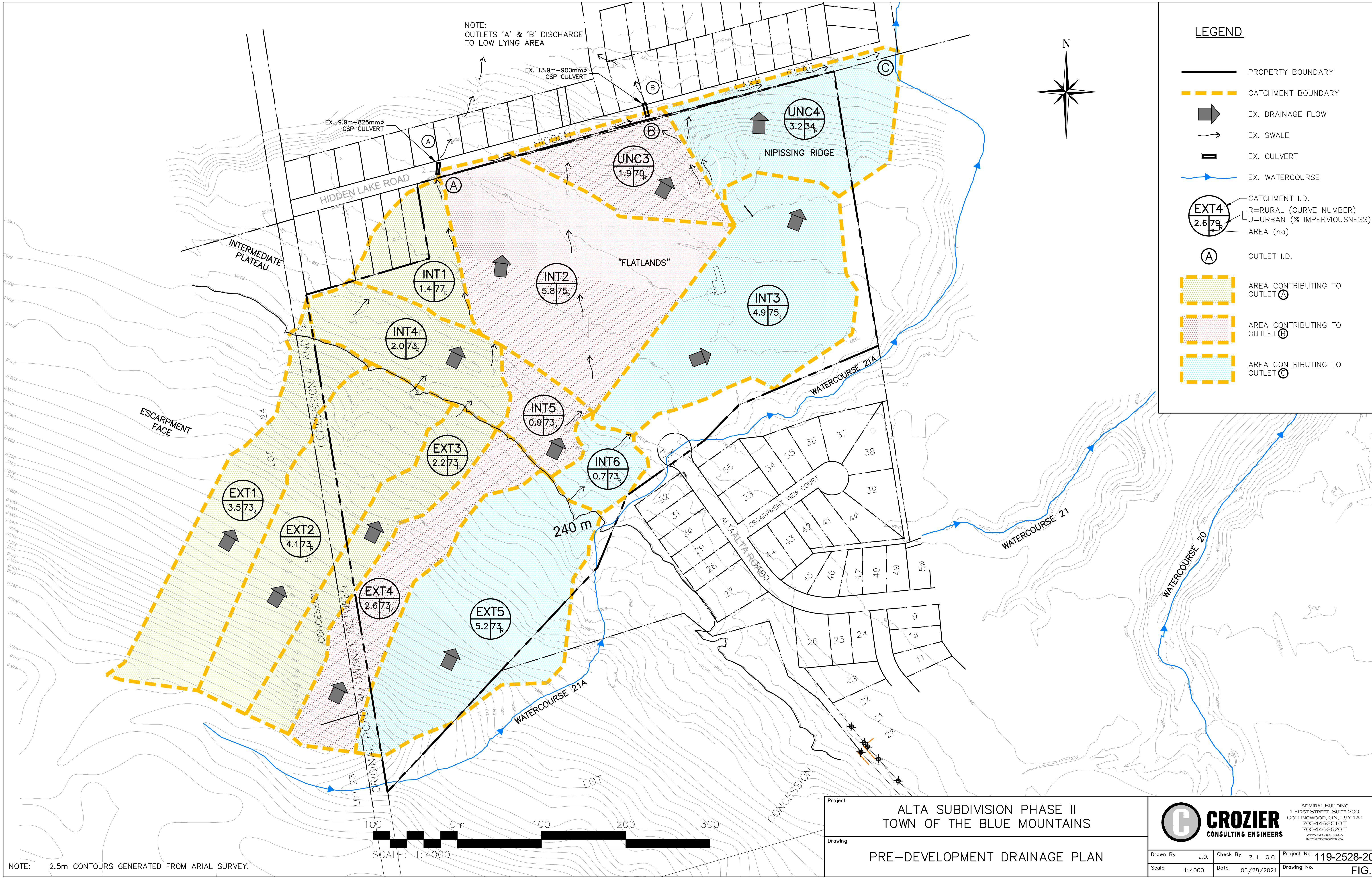
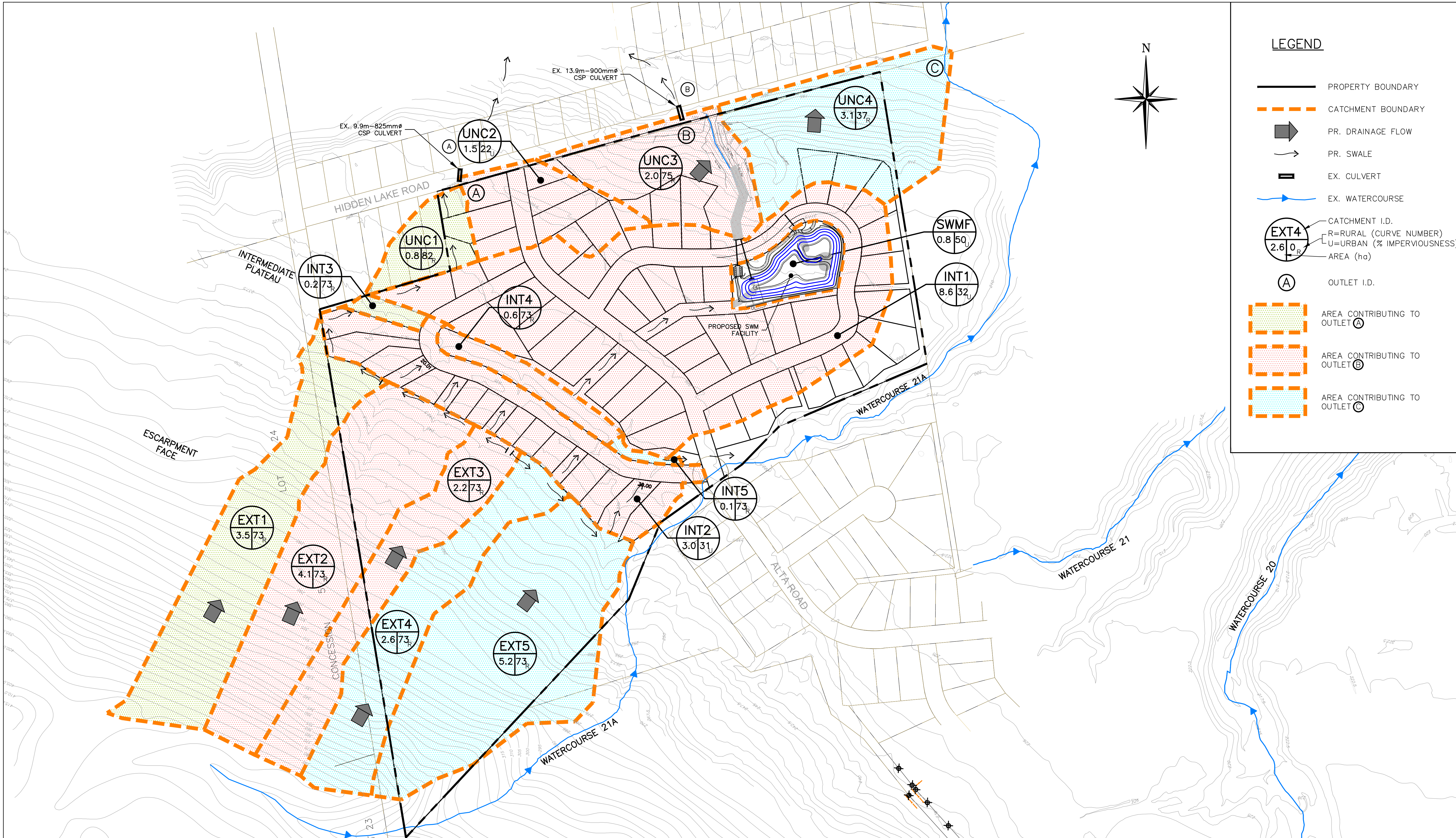
PROJECT ALTA SUBDIVISION PHASE II TOWN OF THE BLUE MOUNTAINS		DRAWN BY: J.O.	PROJECT No.: 119-2528-214
		DATE: 06/28/2021	SCALE: 1:10 000
TITLE REGIONAL SUBWATERSHED MAP		DRAWING No.: FIG. 6	

J:\100\119 - Tabera Ltd\2528\Cad\2528_214-215.dwg, FIG. 6 (214), 2022-02-10 11:43:42 AM, lwaters



J:\100\119 - Tabera Ltd\2528\Cad\2528_203-207, 209-210.dwg, FIG. 7 (203), 2022-02-10 11:30:24 AM, lwaters



NOTE: 2.5m CONTOURS GENERATED FROM ARIAL SURVEY.

Project	ALTA SUBDIVISION PHASE II TOWN OF THE BLUE MOUNTAINS
Drawing	POST–DEVELOPMENT DRAINAGE PLAN

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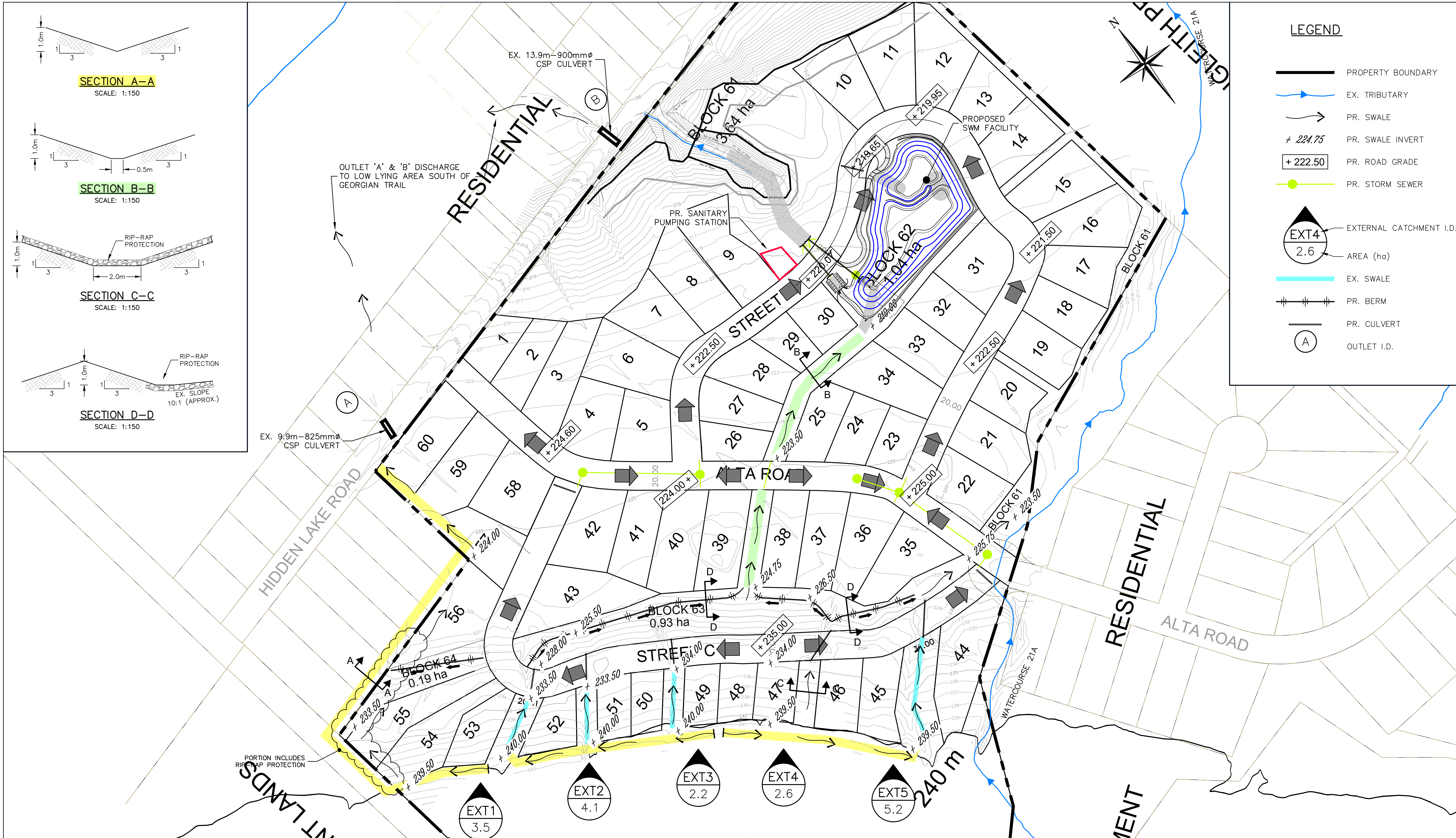
Drawn By	J.O.	Check By	Z.H., G.C.	Project No.	119-2528-204
Scale	1:4000	Date	06/28/2021	Drawing No.	FIG. 8

J:\100\119 - Tabera Ltd\2528\Cad\2528_203-207, 209-210.dwg, FIG. 8 (204), 2022-02-25 1:13:26 PM, lwaters



NOTE: TOPOGRAPHIC SURVEY PER PATTEN & THOMSEN. (DISPLAYED CONTOUR INTERVAL, 1.0m)

50 0m 50 100 150 200
SCALE: 1:2500

Project
ALTA SUBDIVISION PHASE II
TOWN OF THE BLUE MOUNTAINS

Drawing
PRELIMINARY GRADING & STORMWATER MANAGEMENT PLAN

CROZIER CONSULTING ENGINEERS

ADMIRAL BUILDING
1 FIRST STREET, SUITE 200
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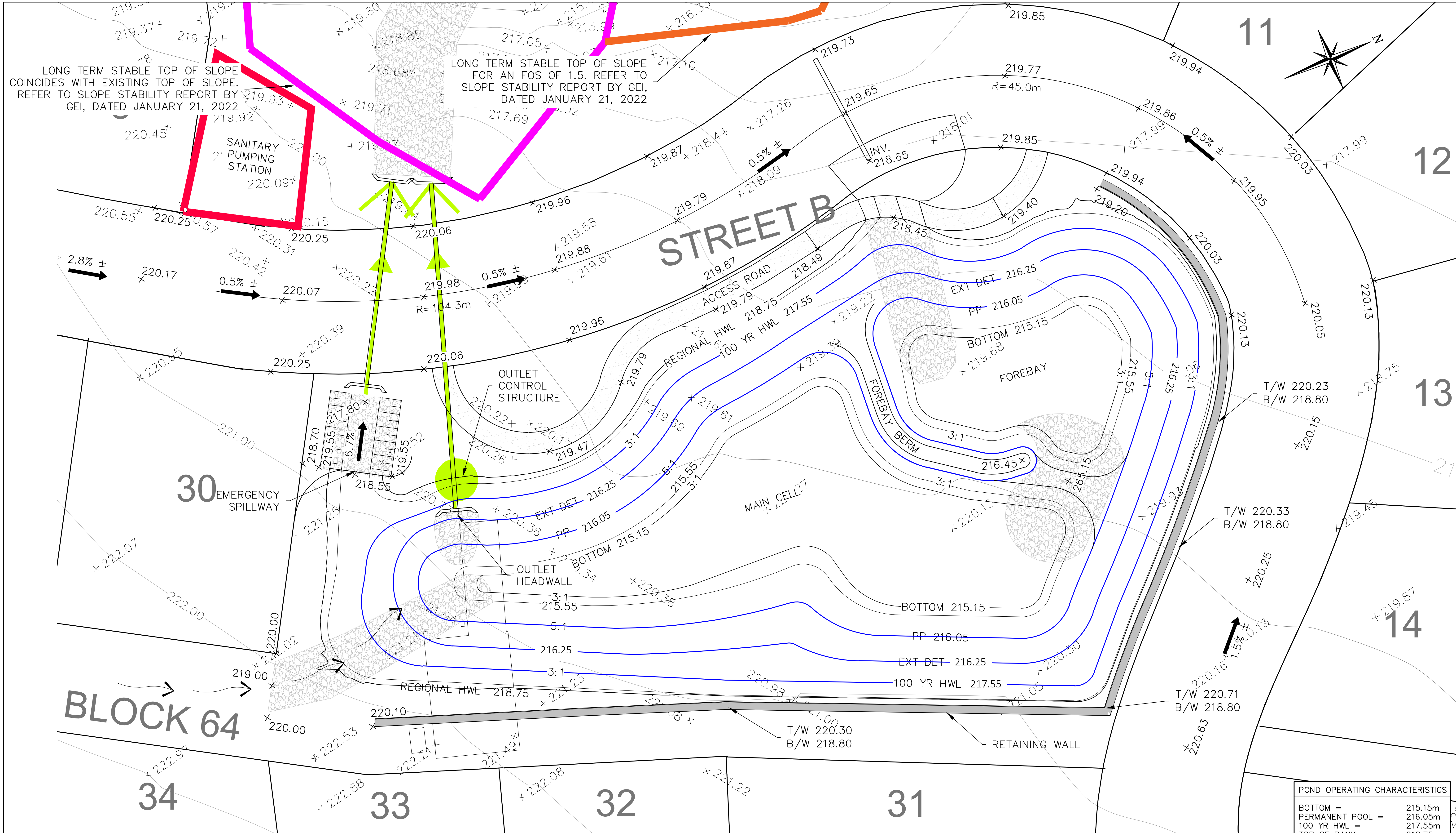
Drawn By	J.O.	Check By	Z.H., G.C.	Project No.	119-2528-206
Scale	1:2500	Date	06/28/2021	Drawing No.	FIG. 9

J:\100\119 - Tabera Ltd\2528\Cad\2528_203-207, 209-210.dwg, FIG. 9 (206), 2022-02-14 2:33:26 PM, lwaters



POND OPERATING CHARACTERISTICS	
BOTTOM =	215.15m
PERMANENT POOL =	216.05m
100 YR HWL =	217.55m
TOP OF BANK =	218.75m

SCALE: 1:500

NOTE: TOPOGRAPHIC SURVEY PER PATTEN & THOMSEN. (DISPLAYED CONTOUR INTERVAL, 1.0m)

Project: ALTA SUBDIVISION PHASE II
TOWN OF THE BLUE MOUNTAINS

Drawing: PRELIMINARY SWM POND GRADING PLAN

CROZIER CONSULTING ENGINEERS
ADMIRAL BUILDING
1 FIRST STREET, SUITE 200
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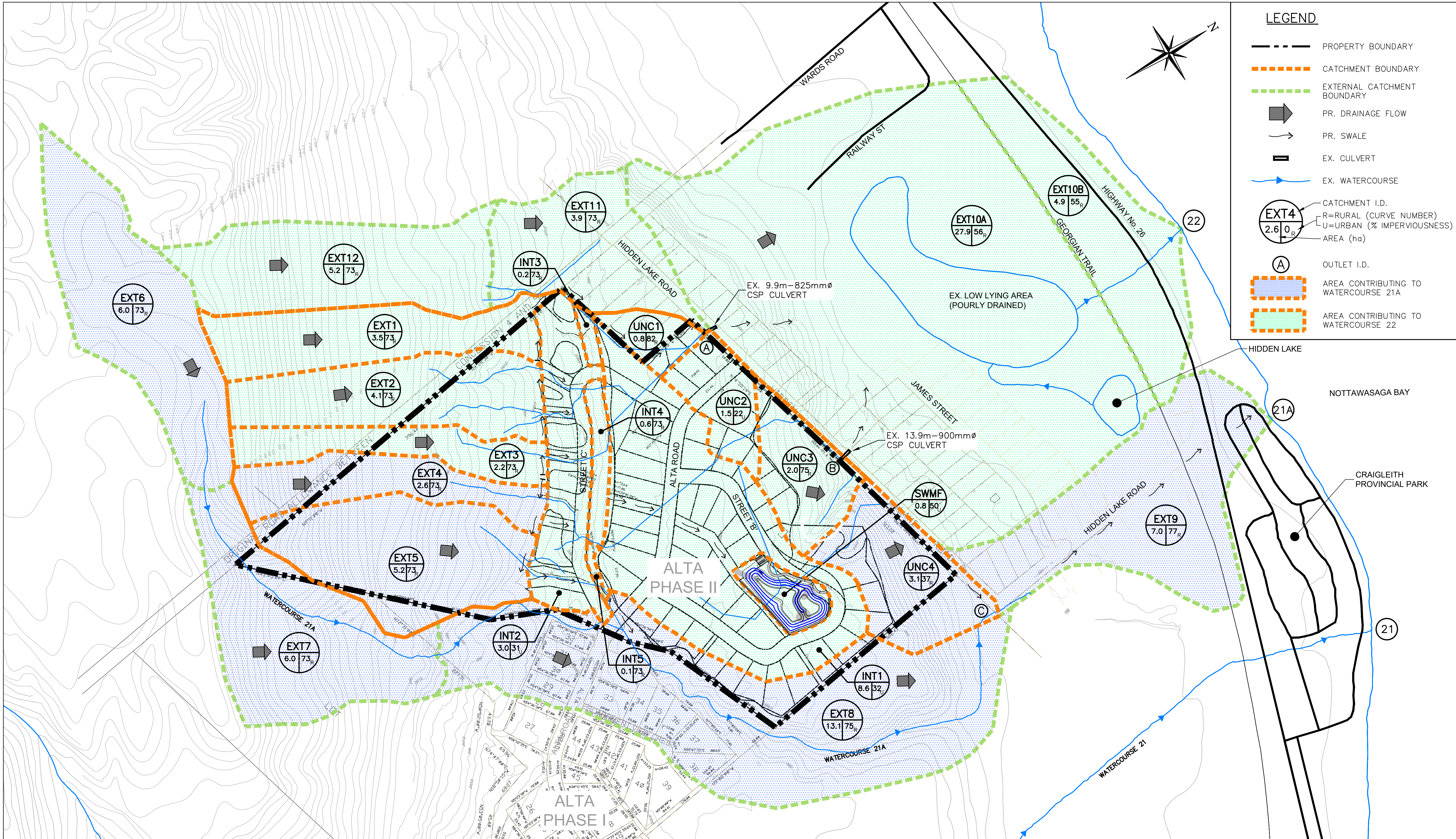
Drawn By	Check By	Project No.
L.W.	J.K., G.C.	119-2528-207
Scale 1:500	06/28/2021	Drawing No. FIG. 10

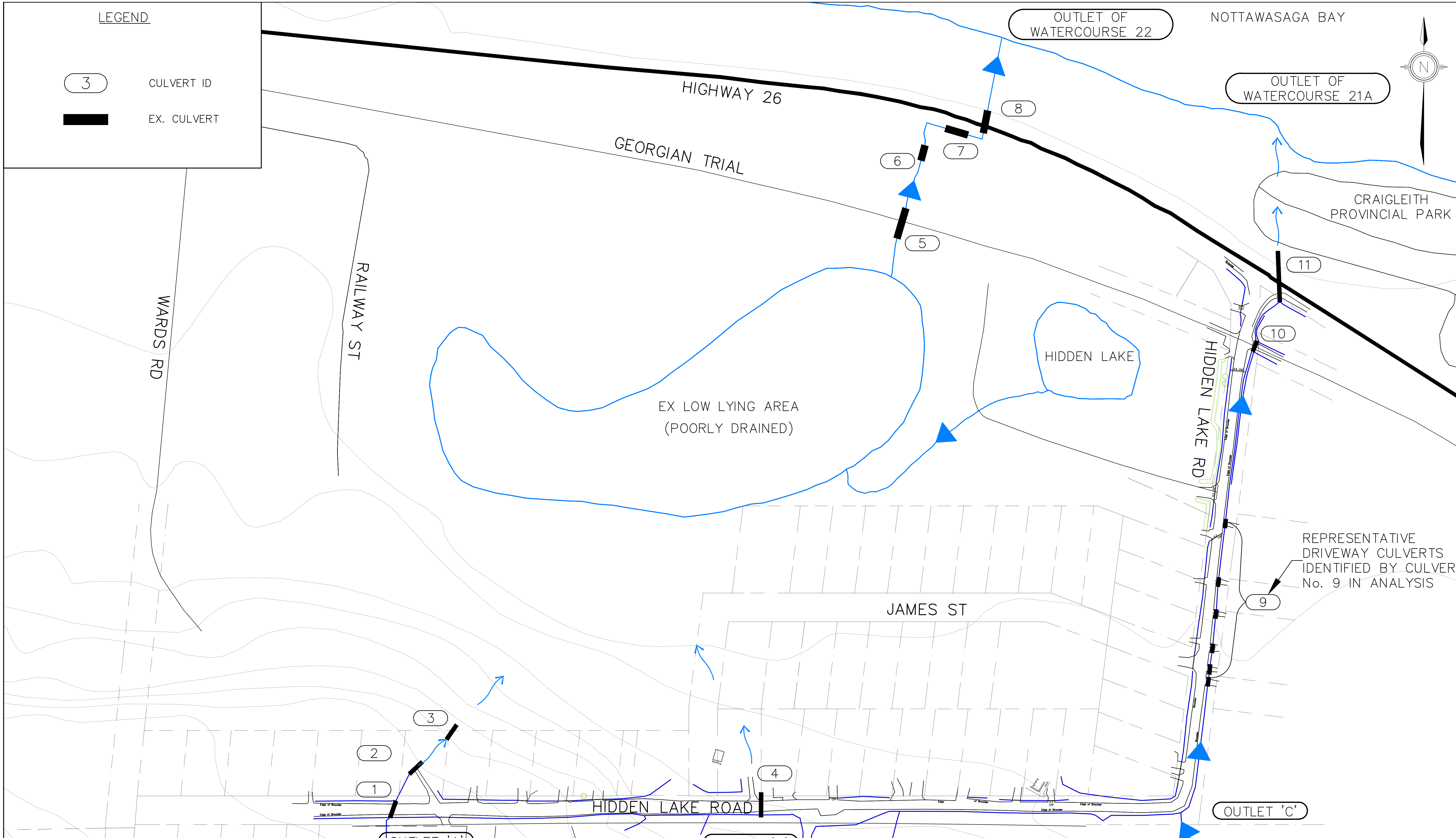
J:\100\119 - Tabera Ltd\2528\Cad\2528_203-207, 209-210.dwg, FIG. 10 (207), 2022-02-14 4:39:41 PM, lwaters



NOTE:
TOPOGRAPHIC SURVEY PER AIREAL BASE MAPPING (DISPLAYED CONTOUR INTERVAL 2.5m)
& PER ONTARIO BASE MAP SHEET 5500–49300 (DISPLAYED CONTOUR INTERVAL 5.0m)

Project: ALTA SUBDIVISION PHASE II TOWN OF THE BLUE MOUNTAINS	CROZIER CONSULTING ENGINEERS		Admiral Building 1 First Street, Suite 200 Collingwood, ON, L9Y 1A1 705446351 0 T 705446352 0 F www.cfcrozier.ca info@cfcrozier.ca
Drawing: POST–DEVELOPMENT SUBWATERSHED PLAN	Drawn By J.O.	Check By Z.H., G.C.	Project No. 119-2528-212
	Scale 1:5000	Date 06/28/2021	Drawing No. FIG. 11

J:\100\119 - Tabera Ltd\2528\Cad\2528_212.dwg, FIG. 11 (212), 2022-02-10 11:00:28 AM, lwaters



Project	ALTA SUBDIVISION PHASE II TOWN OF THE BLUE MOUNTAINS	CROZIER CONSULTING ENGINEERS ADMIRAL BUILDING 1 FIRST STREET, SUITE 200 COLLINGWOOD, ON, L9Y 1A1 705-446-3510 T 705-446-3520 F WWW.CFCROZIER.CA INFO@CFCROZIER.CA
Drawing	HYDRAULIC STRUCTURE LOCATION PLAN	Drawn By J.O. · Check By Z.H., G.C. · Project No. 119-2528-215 Scale 1:1000 · Date 06/28/2021 · Drawing No. FIG. 12

J:\100\119 - Tabera Ltd\2528\Cad\2528_214-215.dwg, FIG. 12 (215), 2022-02-10 11:45:31 AM, lwaters