FUNCTIONAL SERVICING & STORMWATER MANAGEMENT REPORT

DUNN CAPITAL CORPORATION
WEST END COMMERCIAL DEVELOPMENT

TOWN OF COLLINGWOOD

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1.0 INTRODUCTION

C.F. Crozier & Associates Inc. (Crozier) has been retained by Dunn Capital Corporation (DCC) to prepare an engineering study in support of a mixed use development, herein referred to as West End Commercial Development, located in the Town of Collingwood. The 21.1 ha subject lands consists of three parcels that are situated between High Street and the channelized Black Ash Creek, and is bounded by the existing Wal-Mart development to the north, and existing Stewart Road industrial developments to the south. Two outparcels exist that result in the subject lands being an irregular shape; namely, the existing Home Depot development, which bounds the subject lands adjacent to the northeast portion of the property and multiple industrial lots that bound the southeast portion of the property. Refer to Figure 1 for the Site Location Plan.

The legal descriptions of the three parcels are the following:

- Parcel 1 (6.5 ha) and Parcel 2 (0.4 ha): Parts 2 and 3 located in Part of Lot 43 (former Township of Collingwood), County of Simcoe. Municipal address is 530 Third Street.
- Parcel 3 (14.2 ha): Part of the South Half of Lot 44, Concession 10, Town of Collingwood, Parts 2, 3, 4, and 6, 51R-27418, PIN 58260-0010 (LT). Municipal address is 20 High Street.

The subject lands will be subdivided into multiple development blocks. As a result, the Developer is seeking Draft Plan of Subdivision Approval for the subject lands as well as amendments to the Town of Collingwood Official Plan and Zoning By-law. This report has been prepared to support planning applications of the subject lands and to provide sufficient information concerning municipal servicing and stormwater management systems for the development. It is the intention of the proponent to subdivide Parcel 1 into multiple parcels to enable the creation of separate blocks for the existing Goodall Building and parking lot, Cambridge Street Extension ROW, and a future commercial block.

This report will establish the framework on which to build the detailed engineering required for the proposed public roadway system as well as to support future site plan applications for each development block. Furthermore, the report will also serve as a master plan for each stormwater management (SWM) design of the various development blocks.

In addition to this Functional Servicing & Stormwater Management Report, several other reports have been prepared for the subject lands, including:

- Traffic Impact Study (Crozier);
- Geotechnical Report (SPL Consultants);
- Planning Report – Regional Commercial District (D.C. Slade Consultants Inc.); and
- Air Quality & Odour Study for a Mixed Commercial Site (Ortech Consulting Inc.)

Contained within this report is a background discussion (Section 2.0); a description of the existing site conditions and proposed development (Section 3.0); the recommended servicing options for sanitary sewage, water distribution, and utilities (Sections 4.0, 5.0 and 6.0, respectively); the existing drainage conditions and proposed stormwater management strategy (Sections 7.0 and 8.0); discussion on phasing of stormwater infrastructure (Section 9.0), and conclusions & recommendations (Section 10.0).

2.0 BACKGROUND

2.1 Previous Engineering Reports & Design Criteria

A number of engineering reports have been previously completed for the various parcels of the subject lands as well as adjacent developments, which have been reviewed in preparation of this report.

Parcels 1/2

A *Functional Servicing & Stormwater Management Report* [Parcels 1/2 FSR] was completed by Crozier in May 2007 to support planning applications for a proposed commercial development. This Parcel contains the Goodall Facility. The proposal included the re-development of the former industrial property into commercial uses. The SWM plan proposed splitting the drainage into western and eastern portions. It was envisioned that runoff generated from 1.8 ha of the western portion of the site would discharge to Black Ash Creek while 4.4 ha of the eastern portion of the site would ultimately discharge to High Street.

The SWM Criteria used in the Parcels 1/2 FSR includes:

- Minor system (5-year) post-development peak flows at High Street to respect the available storm sewer capacity of 119 L/s per the High Street Storm Sewer Ainley Design Sheets [Ainley Design Sheets];
- Major system (up to 100 year) post-development peak flows at High Street to meet pre-development levels; and,
- All flows directed to the Black Ash Creek to be uncontrolled.

Parcel 3

Parcel 3 represents the majority of the former Holborn Property, save and except the Home Depot site. A *Functional Servicing Report* [Holborn FSR] was completed by Stantec Consulting Limited in October 2006 to support planning applications for a proposed commercial development. The SWM plan proposed directing 8.6 ha of the western portion of the site to Black Ash Creek, without attenuation. The 5.55 ha eastern portion of the site was proposed to outlet to High Street via the existing 675 mm diameter storm sewer, which bisects the Home Depot Site.

The SWM criteria used in the Stantec Holborn Report included:

- All flows up to and including the 5-year storm event are controlled to 215 L/s. As noted in the Stantec Holborn Report, the Ainley Design Sheets allocated 270 L/s for the Home Depot site and Parcel 3; a combined area of 17.5 ha. Per the Ainley Design Sheets, the available capacity in the receiving storm sewer (MH 11 to MH 15) is based on the 5-year flow from 7.5 ha, at a runoff coefficient of 0.40. To determine the allowable release rate, the 270 L/s allocation flow was pro-rated based on the Parcel 2 area of 14.0 ha, which equates to 215 L/s. Refer to Appendix A for the Ainley Design Sheets.
- Flows between the 5-year and 100-year are controlled to pre-development levels.

Home Depot

In 2005, Pinestone Engineering Ltd. prepared a *Stormwater Management and Construction Mitigation Plan Report* [Home Depot Report] as well as the associated engineering plans to support the proposed Home Depot development, which was subsequently constructed in 2006.

The SWM criteria used in the Home Depot Site Plan included:

- All flows up to and including the 5-year storm event are controlled to 60 L/s. As noted in the Home Depot Report, the Ainley Design Sheets allocated 270 L/s for the Home Depot site and Parcel 2, a combined area of 17.0 ha. The total area noted in the Home Depot Report does not match the 17.5 ha total area per the Stantec Holborne Report. To determine the allowable release rate, the 270 L/s allocation flow was pro-rated based on the Home Depot area of 3.5 ha over a total area of 17.0 ha, which equates to 60 L/s.
- Flows between the 5-year to the 100-year are controlled to pre-development levels.
- The SWM plan for the Home Depot site is to accommodate future development opportunities on the remnant lands (Parcel 2).

Collingwood Firehall

In 2012, C.C. Tatham & Associates (CCTA) prepared a *Stormwater Management Design Brief* [Collingwood Fire Hall Report] as well as the associated engineering plans to support the proposed Collingwood Firehall development. Per review of the Collingwood Fire Hall Report, the 5-year post-development peak flow is controlled to 30 L/s, which corresponds to the allocated High Street storm sewer release rate. Post-development peak flows between the 5-year and 100-year events are below pre-development levels, with a 100-year post-development peak flow rate of 50 L/s.

The site allocated High Street storm sewer release rate is based on the following excerpt from the Collingwood Fire Hall Report: 'per the Ainley Design Sheets, the existing 975 mm diameter storm sewer, adjacent to the site, was designed to accept the 5 year storm event from a catchment area of 3.9 ha (MH 13 to 15). The catchment area is split, with 3.24 ha (83%) on the west side and 0.66 ha (17%) on the east side of High Street. The peak design flow for the catchment area for this section of pipe is 178 L/s; therefore, the total allowable flow from the Fire Hall site is calculated to be 30 L/s (17% of 178 L/s) during the 5-year storm'.

Wal-Mart

In 2004, Stantec Consulting Ltd. prepared a *Stormwater Management Design Brief Report* as well as the associated engineering plans to support the proposed Wal-Mart Development, which was subsequently constructed. The Wal-Mart development is located within the OPA 37 lands (part of Area 1) and required no on-site water quantity controls.

2.2 Pre-Consultation

A number of pre-consultation discussions have taken place between Crozier staff and the Town of Collingwood to support the development concept for the subject site. Previous consultation with the Nottawasaga Valley Conservation Authority (NVCA) was completed as part of the preparation of the FSR for

Parcels 1/2. The following items have been addressed through pre-consultation, and are reflected in the subject Draft Plan:

- An environmental protection (EP) area has been designated along the Black Ash Creek, per NVCA request.
- A 20.0 m buffer from the EP area has been applied.

3.0 SITE DESCRIPTION

3.1 Existing Conditions

Parcels 1/2

In 2007, earthworks operations took place within the western portion of the Parcel 1. A cut operation was undertaken whereby fill was removed and placed off-site. Refer to Appendix B for the Fill Control Grading & Sediment & Erosion Control Plan, which was prepared to obtain a fill permit.

There are no prominent drainage features within the western portion of the property. Elevations across this area vary from 186.3 m to 184 m asl, with slopes generally at 0.5%.

The eastern portion of Parcel 1 consists primarily of the existing Goodall plant/facility. The existing building consists of a large approximately 10, 000 m2 warehouse and associated asphalt parking and internal roadways with access from Third Street west of High Street. The building and all appurtenances located to the south of Cambridge Street Extension will remain when the site is developed; however, the parking lot will be improved at a future date.

The soils within Parcels 1/2 are classified as Kemble clay loam and Smithfield Silty Clay Loam (Soil Survey of Simcoe County 1953). These soils are classified as hydrologic soil group D and CD, respectively per the Ministry of Transportation Drainage Manual (1997).

Parcel 3

The former Harding Carpet Factory, a one-storey masonry block industrial building, occupies the eastern portion of the parcel. A portion of this building has been demolished to facilitate the development of the Home Depot site plan. The building will be completely demolished once the existing tenants have been relocated.

The remainder of the site consists primarily of heavily treed areas along the Black Ash Creek frontage and tree cleared areas. There are no prominent drainage features within Parcel 2. Elevations across this area vary from 186.0 m to 181 m asl, with slopes generally at 1.5%.

The soils within Parcel 3 are classified as Kemble clay loam and Smithfield Silty Clay Loam (Soil Survey of Simcoe County 1953). These soils are classified as hydrologic soil group D and CD, respectively per the Ministry of Transportation Drainage Manual (1997).

3.2 Development Proposal

The proposed Draft Plan of Subdivision for the site was produced by Patten & Thomsen Ltd (April, 2015), and is illustrated on Figure 2. As shown, the development will consist of four (4)) development blocks, and internal roadways. Furthermore, the Draft Plan provides for widening of High Street to accommodate High Street improvements. Table 1 outlines the land use distribution contemplated by the Draft Plan.

Table 1: Proposed Distribution of Land Uses

Land Use	Area (ha)
Street A (Cambridge Street Extension)	1.21
Development Blocks (Blocks 1 to 4)	19.76
High Street Widening	0.06

It is intended to develop the majority of the blocks as a commercial land uses. However, the servicing and stormwater management strategies presented herein allow for the design flexibility to enable a portion of Blocks 1 and 2 to be developed as residential.

It is our understanding that the proponent intends on undertaking a lot severance within Block 2 to create a separate 3.0 ha block for the existing Goodall plant. For the purposes of this report, Block 2 will herein refer to the portion of the block being severed from the Goodall plant.

Access to the proposed development will be from two existing public roads namely Third Street and Cambridge Street as well as an existing private laneway along the south limit of the Home Depot site.

As part of the proposed development, Cambridge Street will be extended south to connect to the existing west limit of Third Street, thus creating a linkage between High Street and the south terminus of the existing Cambridge Street. This road extension is herein referred to as Cambridge Street Extension. A roundabout is proposed at the intersection of the Cambridge Street Extension and the Private Laneway.

The preliminary design of the roundabout allows for a future road to extend west of the roundabout to access Block 1, if deemed required in future block-level site plan applications. A conceptual (100 m long) road has been shown on the report figures to facilitate the preliminary design of the servicing and stormwater management systems.

All roadways, both public and private, will be constructed as per municipal standards and the recommendations of the geotechnical reports completed for the development.

Upon obtaining draft plan approval, the detailed design of the Cambridge Street Extension, private laneway, High Street/Third Street intersection improvements, and Regional SWM Facility will commence, followed by construction of the said infrastructure. This will include all services within the ROW (watermain, sanitary, storm, and utilities) to provide service stubs to the various development blocks as well as the roadways. It is proposed to phase the construction of the Regional SWM Facility (refer to Section 9.0 for further discussion).

The layout of the internal roadways and services within each development block will be designed at the site plan application stage for each respective development block; consequently, block- level design is beyond the scope of this report.

3.3 Geotechnical Conditions

SPL Consultants Limited have completed a geotechnical investigation to determine the geotechnical conditions along the proposed Cambridge Street Extension, private laneway, roundabout location and High Street and provide recommendations for future construction.

As part of the Geotechnical Investigation, fifteen (15) boreholes were advanced with three boreholes (BH14-01, 14-04 and 14-07) serving as groundwater monitoring wells. Bedrock was encountered in all the boreholes, at depths between 0.7 m and 2.3 below grade. Groundwater was observed within the monitoring wells at depths between 1.0 m and 3.5 m below grade, which is based on September 2014 readings. Refer to Geotechnical Report for further information.

SPL has been retained to complete a 9 month groundwater monitoring program within the aforementioned monitoring wells to determine the groundwater characteristics (i.e. seasonal high groundwater table) within the development lands. This data will be used to support the detailed design efforts of the proposed servicing and roadworks.

Block-level geotechnical/hydrogeological investigations will be completed by the future owners as part of the site plan approval process for each respective block.

4.0 SANITARY SEWAGE SYSTEM

It is the for the entire subject development to be serviced via the Town of Collingwood municipal sewage system.

4.1 Existing Sanitary Infrastructure

<u>High Street & Third Street</u>

As-built municipal servicing drawings obtained from the Town indicate an existing 300 mm diameter sanitary sewer is located along High Street. There is also a 250 mm diameter sanitary sewer along Third Street west of High Street, which services the existing Goodall site. Based on Town drawings, the existing 300 mm diameter sanitary sewer along High Street north of Third Street is at a slope of 0.35 %, which equates to a capacity of approximately 57.2 L/s.

<u>Block 4 Stub</u>

There is an existing 250 mm ø sewer that runs west from the High Street sewer and bisects the Home Depot parking lot to the east limit of Block 4. The invert at the manhole (MH'B') is at 179.0 m. This sewer is contained within an easement, as shown on Figure 2.

Cambridge Street

There is no existing sanitary sewer along Cambridge Street.

4.2 Proposed Sanitary Strategy & Design Flows

As previously noted in Section 3.2, the subject development will consist of commercial blocks with the option to enable a portion of the site (along the BAC frontage) to be developed as residential. Wastewater generated from residential developments is typically higher than wastewater flows associated with commercial developments. As a result, the anticipated sanitary design flows presented herein is based on the conservative scenario whereby the west half of Blocks 1 and 2 are assumed to be residential while the balance is assumed to be commercial. This represents a worst-case scenario with respect to the anticipated sanitary design flows.

It is the intent for the entire subject development to be serviced via gravity sewers discharging to the High Street sanitary sewer system. Preliminary calculations show that the projected peak sewage flow will be 16.5 L/s, which represents 30% of the High Street sewer capacity. Refer to Appendix C for these calculations.

The sanitary servicing strategy will involve extending a sanitary sewer along Cambridge Street Extension from the existing Third Street sewer (MH A) to provide sanitary servicing to Blocks 2 and 3 only. To provide services to Block 1, the existing Block 4 sanitary stub will be extended to Cambridge Street Extension, bisecting Block 4. A servicing easement would be required within Block 4 to contain the sewer. The exact sewer easement location will be determined at the detailed design stage of the proposed Public ROWs and Regional stormwater management facility. Refer to Figure 3 for the sanitary servicing strategy plan.

Block 2 will be serviced via extending a service from Cambridge Street Extension west to the block. The service will be contained within a drainage/servicing easement.

4.3 Waste Water Treatment Plant Capacity

The existing waste water treatment plant (WWTP) is located north of First Street between Beech and Birch Streets. The plant treats sewage and discharges the treated effluent to the Collingwood Harbour. The design capacity of the plant (Average Daily Flow, ADF) is 24,545 m^3 per day. As of the end of 2013, the ADF was 17,774 m^3 per day. The ADF to the end of September 2014is 15,793 m^3 per day, so the plant is operating at approximately 70% of its hydraulic capacity (per personal communication between Crozier staff and Don Green, October 2014).

Allocation within the Collingwood WWTP for the subject lands has yet to be reserved with the Town of Collingwood. It should however be noted that allocation of available capacity is typically issued on a "first come first served" basis upon registration of the subject development and will be confirmed with the Town of Collingwood as development approvals proceed.

5.0 POTABLE WATER SUPPLY

Potable water for the development will be supplied by the Town of Collingwood municipal water distribution system.

5.1 Existing Watermain Infrastructure

As-built municipal servicing drawings obtained from the Town indicate the following existing municipal watermain infrastructure.

Cambridge Street

There is an existing 250 mm diameter watermain stub at the Cambridge Street terminus. The watermain along Cambridge Street reduces in size from a 250 to 200 mm diameter near the First Street Extension intersection.

Third Street & High Street

There is a 300 mm located along Third Street, west of High Street, which connects to a 300 mm diameter C.I. watermain along High Street.

5.2 Proposed Water Servicing Strategy

Connection to the existing municipal system is straightforward and feasible. The subject development will be serviced by extending watermains through the development along the proposed Cambridge Street Extension per municipal standards, with connections to the municipal system in a minimum of two locations; one at the High Street intersection and a connection at the existing Cambridge Street terminus. Two connections to the municipal network will satisfy the Town and Ministry of Environment requirements for a looped water distribution system. The proposed watermain distribution network is reflected on Figure 4.

To provide services to Block 1, a watermain will also be extended to the west limit of the Cambridge Street Extension roundabout. A water service will be provided for Block 2 via extending a watermain from Cambridge Street Extension along a servicing/drainage easement.

At a minimum, one (1) watermain stub will be provided for each development block, with multiple stubs provided for Block 1.

To meet Town Standards, the minimum watermain sizing within the public ROWs is a 200 mm diameter; this sizing will be subject to the Town completing a distribution analysis and updating their municipal model during the detailed design process.

Fire hydrants will be spaced to provide sufficient fire protection. The location of valves, services, and fire hydrants will be specified at detailed design.

5.3 Water Treatment Plant Capacity

The Town of Collingwood treats and distributes potable water from its water treatment plant (WTP) located on Raglan Street, which draws water from Nottawasaga Bay. The municipality completed an Environmental Assessment study of the WTP, and this study confirmed the re-rating of the daily treatment capacity of the plant to be 31,140 m^3/d. A new Certificate of Approval was issued in July 2011. Per the 2014 Compliance Report for the WTP the Yearly Daily Average demand was 17,744 m^3 and the Maximum Day demand was 23,468 m^3, which indicates more than sufficient capacity is available for future development.

Allocation within the Collingwood WTP for the subject lands has yet to be reserved. As noted previously in Section 4.0, allocation of available capacity in the municipality's treatment plants is issued on a "first come first served" basis upon registration of the subject development and is confirmed as development approvals proceed.

6.0 UTILITIES

The subject development will be serviced with telephone, cable TV, gas and hydro. All such utilities have been contacted, and each utility has confirmed that there are existing facilities available in the area.

7.0 EXISTING DRAINAGE CONDITIONS

7.1 Parcels 1/2

The existing conditions of Parcels 1/2 were described in Section 3. As indicated, Parcel 1 is located along the east berm of Black Ash Creek. Almost the entire parcel drains away from Black Ash Creek towards Parcel 3 (former Holborn property) and High Street. An evaluation of the existing drainage conditions across the site is described below.

The earthworks operations that took place in 2007 generally respected the existing drainage patterns within Parcel 1.

Drainage to Parcel 3

As illustrated on Figure 2 – Pre-Development Drainage Plan in Appendix D, the western portion of the subject lands and additional external area south of the site presently drain by sheet flow towards Parcel 2. This area consists of approximately 2.6 ha (Catchment No. 1) of internal lands and 0.6 ha (Catchment EXT-1) of external lands consisting predominately of vegetated lands (formerly disturbed by earthworks operations), with the exception of developed lands within the external catchment. Topographic relief across both internal and external lands is approximately 2 metres with slopes of approximately 0.5%.

Drainage to High Street

Runoff generated from the 4.2 ha eastern portion of the site and 1.9 ha external catchment is conveyed via interceptor swales, road-side ditches and sheet flow. These areas consist of existing developed areas and undeveloped open spaces.

Runoff generated from the 1.9 ha external area and a portion of the existing Goodall building is intercepted by a drainage swale located along the south side of the building. The drainage swale conveys external flow and a portion of internal flow east to the Third Street ROW drainage ditches.

Runoff generated from the remainder of the eastern portion of the parcel is also conveyed towards the Third Street road-side ditches via overland drainage as sheet flow. During minor storm events, drainage from the road side ditches discharge to the High Street storm sewer system via existing culverts and storm inlets. Major flows in excess of the existing ditch capacities are directed overland on the roadway toward High Street.

A small amount of runoff generated from the northeastern portion of the parcel is conveyed via an interceptor swale along the north limits of the subject lands, ultimately outletting to the High Street ROW.

7.2 Parcel 3

Parcel 3 currently drains east towards High Street. Per review of the Home Depot SWM Report and accompanying drawings, runoff generated from portions of Parcel 3 outlet to the existing Home Depot SWM pond while the remainder by-passes the pond and outlets directly to High Street.

Per review of the Home Depot Stormwater Management Plan (refer to Appendix E), Catchments 201 and 202 are tributary to the Home Depot SWM pond and oil-grit separator. As a result, these catchments are subject to water quality and quantity controls. Runoff generated from Catchments 203 (Harding Carpets site) and 204 (remainder of Parcel 3) by-pass the Home Depot SWM Pond and are conveyed to the High Street Storm Sewer via two existing storm sewers. The two storm sewers are a 675 mm storm sewer, which runs parallel to the south side of the Home Depot building, and a 450 mm storm sewer, which is located along the north side of the Home Depot building. A portion of the runoff generated from Catchment 203 is conveyed to High Street via an existing swale along the south limits of Parcel 3.

As previously noted in Section 2.1, the Home Depot SWM Pond controls the 5-year storm flows generated from Catchments 201 and 202 to the target release rate of 60 L/s, prior to outletting to the High Street storm sewer.

8.0 STORMWATER MANAGEMENT & SITE DRAINAGE

The management of stormwater and site drainage for the proposed development must comply with the policies and standards of the various agencies including the Town of Collingwood, Nottawasaga Valley Conservation Authority, and Ministry of the Environment and Climate Change. The stormwater management criteria that will be met with the subject development are as follows:

- Water Quantity Control
  - High Street
    - "Post to pre" control for storms greater than the 5-year return period storm and up to and including the 100-year event
    - Peak flow control to the allocated High Street storm sewer capacity for the 5-year event.
  - Black Ash Creek
    - Peak flow control for areas draining to Black Ash Creek is not required, subject to the flow capacity of the conveyance system (if applicable).
  - Existing Cambridge Street
    - Peak flow control to the free flow capacity of the Cambridge Street storm for the 5-year event.
    - "Post to pre" control for storms greater than the 5-year return period storm and up to and including the 100-year event

- Water Quality Control
  - Runoff is to be treated prior to discharge meeting "Enhanced Protection" given Black Ash Creek and Georgian Bay as ultimate receivers.

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

- External Drainage Management
  - SWM design to accommodate external flows

The above noted criteria are consistent with the stormwater management strategies developed in the Home Depot Report, Parcel 1/2 FSR and the Holborn (Parcel 3) FSR.

As previously noted in Section 3.2, the subject development will consist of commercial blocks with the option to enable a portion of the site (along the BAC frontage) to be developed as residential. Given that the impervious levels associated with a commercial development are typically around 85% while residential developments have an impervious level of 40 to 50% (subject to unit density), the stormwater management analysis presented herein is based on the conservative option that the entire subject development will be a commercial development. This represents a worst-case scenario.

<u>High Street SWM Criteria</u>

At this preliminary juncture, for post-development flows directed to High Street, the SWM design will provide 100-year post-development peak flow control to the 5-year maximum allowable release rate to the High Street storm sewer system. The maximum allowable release rate to the High Street storm sewer has

been taken as 161 L/s. This is premised on the basis that the allotted 5-year storm flows between MH 9 and 11, which is based on a 3.3 ha area at 0.4 runoff coefficient, has been used by the Goodall Site and is not available for the subject development as well as the facts listed below. Refer to Appendix A for the Ainley Design Sheets.

- Per the Ainley Design Sheets, the peak design flow for the 7.5 ha catchment area between MH 11 to 15 is 270 L/s.

LESS the following allocations

- Home Depot 60 L/s (MH 13 to 15)
- Collingwood Firehall 30 L/s (MH 11 to 13)
- Peak design flow between MH 13 to 15 is 110 L/s and 17% of the 3.6 ha catchment area is located on the east side of High Street.
- 18.7 L/s (17% of 110 L/s) is allocated to the east side of High Street.

- **Total allocated flow to subject development is 161 L/s.**

8.1 Outlet Options

A preliminary review of the outlet options for the site indicate that there are two primary outlet locations for the subject development; Black Ash Creek to the west and High Street drainage system to the east. The option of outletting stormwater to the existing Cambridge Street was also examined.

8.1.1 West Outlet: Direct to Black Ash Creek (Gravity)

As previously noted, Black Ash Creek (BAC) along the west frontage of the subject lands, is a channelized system that has a channel invert that is between 1 m and 3 m below the existing grades along the subject lands frontage. Given this, Black Ash Creek could serve as a deep outlet for a storm sewer network within the subject lands. However, to realize the BAC as an outlet, lands that would be tributary to the BAC would be required to have proposed grades that are a minimum elevation of 0.3 m above the Regional flood elevation to achieve adequate floodproofing. As previously noted, the subject lands fall away from the BAC towards High Street; therefore, fill depths to as high as 5.0 m would be required to outlet the subject development to the BAC. As a result, the use of BAC as a gravity outlet is limited due to site grading and fill implications.

8.1.2 West Outlet: Direct to Black Ash Creek (Stormwater Pumping)

An alternative to outletting directly to Black Ash Creek via gravity is to collect the on-site stormwater in a centralized SWM facility. The SWM facility would be complete with a pumping station that would pump controlled flows to Black Ash Creek via a forcemain.

8.1.3 North Outlet: Black Ash Creek via Existing Cambridge Street Storm Sewer

Per the review of the following drawings, the feasibility of using the existing Cambridge Street as a stormwater outlet has been examined.

- 'Cambridge and First Street Extension – Plan & Profile – Sta. 0+840 to 1+130' Drawing No. C-002-AC (Construction Record), R.J. Burnside, February 24, 2006; and,
- 'Cambridge and First Street Extension – Plan & Profile – Sta. 9+800 to 10+045' Drawing No. C-004-AC (Construction Record), R.J. Burnside, February 24, 2006; and,

There is an existing 300 mm ø storm sewer at the north subject property line with Cambridge Street with a pipe slope of 0.2%, which equates to a free flow capacity of 43 L/s. Given the small magnitude of this flow, outletting an appreciable area of the subject development to this storm sewer would result in a cost prohibitive amount of detention storage required. Therefore, the existing Cambridge Street storm sewer system is deemed inadequate as a primary outlet for the subject development.

There is a high point approximately 40 m north of the Cambridge Street terminus; as a result, any overland flow generated from the subject lands and directed to Cambridge Street cannot flow north. Rather, overland flow would be conveyed along the existing lane at the back of the Home Depot building (private property). Therefore, directing overland flow to Cambridge Street is deemed to be not feasible based on the existing road profile.

Given the lack of overland flow route along Cambridge Street, the SWM criteria for discharge to Cambridge Street has been modified from the SWM criteria outlined in Section 8.0 to the following:

- Post-development 100-year post-development peak flow control to be controlled to the free flow capacity of the existing Cambridge Street storm sewer. The maximum allowable release rate is 43 L/s.

8.1.4 North Outlet: Black Ash Creek via an External Trunk Storm Sewer

To increase the allowable release rate to the North Outlet, a trunk storm sewer could be installed along the existing Cambridge Street and First Street Extension, outleting at the BAC (refer to Figure 5). This proposed storm sewer would serve as a dedicated sewer for the subject lands. To limit the required storm sewer to a practical size, on-site water quantity controls would still be required.

8.1.5 East Outlet: High Street

Given that the site falls towards High Street, the use of the High Street drainage system is the preferred option from a site grading and imported fill implications perspective. However, the maximum allowable release rate of 161 L/s is highly restrictive for the subject development as less than half of the subject lands was accounted for in the design flow calculations. Furthermore, the design flow computations were based on a runoff coefficient of 0.4, which reflects a low development intensity that is not commensurate with the proposed commercial development.

Given that High Street is a four lane arterial road and the subject land falls towards the road, High Street is the preferred overland flow route for the major storm outlet from a fill implication and conveyance perspective.

8.1.6 Outlet Selection

Based on the examination options, the feasible outlet options include the following:

- Black Ash Creek via external trunk storm sewer;
- Black Ash Creek via a forcemain (pump station required); and
- High Street

It is noted that all the feasible outlet options require on-site detention storage to attenuate the flows. Outletting stormwater generated from the subject lands to High Street is considered the preferred outlet option given that the site falls towards High Street and the two outlet options to the Black Ash Creek require additional infrastructure (pump station and forcemain or external trunk storm sewer). Therefore, the stormwater management design is premised on outletting to High Street.

8.2 Overview of SWM Design

Two SWM control options were explored to meet the SWM criteria.

Option 'A' – water quantity, quality and erosion controls provided on a block-level basis.

Option 'B' – SWM criteria met via a centralized, regional SWM pond facility.

Preliminary examination of Option 'A' indicates that extensive onsite detention storage (~10,000 m^3 combined across the Blocks) is required along with controls within the public ROWs, regardless of outlet option. As a result, Option 'B' has been selected.

The post-development drainage condition involves directing 15.0 ha of the site, comprised of 14.2 ha of block lands a 0.8 ha of Cambridge Street Extension to a regional SWM facility, and ultimately to the High Street Drainage System. Due to site grading constraints, 5.1 ha of the site, comprised of 1.4 ha of block lands and 0.5 ha of Cambridge Street Extension, 0.3 ha of an overland flow route and 2.9 ha of the Goodall Site is not able to outlet to the regional SWM facility; as such, these lands will be directly tributary to the High Street drainage system. A portion of the Private Lane (0.2 ha) will be directed to the Home Depot SWM Pond. Refer to Figure 6 for the post-development drainage plan.

It is proposed to provide a drainage divide along the Cambridge Street Extension with 230 m of the road (Catchment R4) from the High Street intersection to the north limit of the Goodall Site being conveyed to the High Street drainage system, 140 m of the road being conveyed to the SWM facility and the remainder of the road (0.16 ha) being conveyed to the existing 300 mm ø storm sewer at the south limit of the existing Cambridge Street.

The Cambridge Street Extension will be 'saw-toothed' from a high point located 80 m south of the connection to Cambridge Street. The use of the saw-toothing within the road will accomplish the following:

- Enable the private laneway and the portion of Cambridge Street Extension near the High Street intersection to better match surrounding existing grades within private property;
- Reduce proposed road grades along the Goodall Facility to better blend into existing site grades; and,
- Reduced overall proposed grades within Cambridge Street Extension.

An alternative SWM design whereby the Regional SWM facility outlets to the Black Ash Creek as opposed to High Street is provided in Section 8.6.

8.2.1 Lands Tributary to Regional SWM Facility

Due to the size and commercial nature of each development block, it was determined that the conveyance of uncontrolled flows generated from each block to a regional SWM facility would require consideration of the infrastructure requirements to convey the minor and major storm events to the pond. For an example, the option of locating the Regional SWM facility within Block 4 was examined. To convey uncontrolled minor storm flows (5-year) from the development blocks and Cambridge Street Extension, it was determined that storm sewers ranging in size from 900 mm to 1500 mm diameter would be required within the Municipal ROW.

The SWM facility will consist of a wetland with extended detention capabilities, providing water quantity and quality control as well as erosion control. As consistent with the Stantec Holborn Report, the SWM facility will outlet to the existing 675 mm diameter, at the west limit of the Home Depot site. The facility will consist of four cells, with each cell located at each of the four quadrants of the proposed roundabout. Each of the four cells will consist of a sediment forebay and a main cell. Hydraulic connection between the ponds will be achieved via equalization pipes. Refer to Section 8.5 for further discussion on the SWM facility operating characteristics.

Development Blocks – Blocks 1, 2, portion of Block 3, and 4

Minor and major storm flows generated from Blocks 1, 2, a portion of Block 3, and 4 will be conveyed via an internal storm sewer network and overland flow route, respectively, to the sediment forebay of the closest pond of the SWM facility.

As such, the need for conveyance of the major and minor storm development block drainage within Cambridge Street Extension has been eliminated, thereby reducing the storm sewer and overland flow infrastructure requirements within the Municipal ROW.

At this preliminary juncture, Block 1 will have split drainage with portions of the block outletting to the southwest cell and to the northwest cell of the SWM facility. Similarly, Block 3 will have split drainage with 1.0 ha being directed to the SWM facility and 1.7 ha outletting to High Street.

As illustrated on Figure 6, preliminary grading has been prepared illustrating the minimum finished grades for each block to outlet the minor and major storm flows to the SWM facility.

Per the preliminary storm sewer and road profile design within Cambridge Street Extension, local road drainage (major and minor storm systems) will be directed to the northeast SWM pond. This will enable phasing of the proposed SWM facilities to accommodate the Developer's intention to construct the public roadway prior to the development of the blocks. Refer to Section 9.0 for further discussion.

The minor storm flows generated from Block 2 will outlet to a storm lateral, which will extend from the forebay of the southwest (SW) pond and be contained within a 10 m drainage/servicing easement. Major storm flows will be conveyed to Cambridge Street Extension via the aforementioned easement. Cambridge Street Extension, along the south limits of the roundabout, will be complete with curb cuts to enable the major storm flows to outlet to the SE pond and SW pond. Block 2 will be required to incorporate EXT1 located to the south into the SWM plan, as part of the Site Plan Approval process. Refer to Figure 1 in Appendix D for the External Drainage Areas.

8.2.2 Lands Directly Tributary to High Street

Portions of Block 3 (Catchments B2 and C) and Catchment R4 (portion of Cambridge Street Extension) will outlet directly to the High Street drainage system. The Goodall Site and 1.9 ha of external drainage area will also continue to outlet to High Street via the proposed Cambridge Street Extension drainage system.

The proposed Cambridge Street Extension storm sewer within Catchment R4 will be designed to intercept and convey the 100-year storm peak flow from the ROW. The storm sewer will also be designed to accept at a minimum the minor storm flows from the Goodall Site. Stormwater generated from the Goodall Site will outlet to the Municipal ROW in an uncontrolled manner, as consistent with existing conditions. It is anticipated that major storm flows from the Goodall Site will be conveyed overland within the Row; however, this is subject to detailed design.

A storm lateral will be extended from the High Street storm sewer (Mh#48) to provide a storm outlet for Catchment B2.

Catchment C will outlet to the proposed Cambridge Street Extension storm sewer via a storm sewer stub.

To meet the SWM criteria, block-level SWM controls will be required for a portion of Block 3 (Catchments B2 and C). Furthermore, ROW level SWM controls will be required for Catchment R4. Further discussion is provided in Section 8.3.

8.2.3 Lands Tributary to Home Depot SWM Pond

In conformance with the Home Depot SWM report, Subcatchment R6 will outlet to the existing Home Depot stormwater infrastructure and will be controlled via the existing Home Depot SWM pond along the High Street frontage prior to discharging to the High Street storm sewer system.

8.2.4 Lands Tributary to the existing Cambridge Street

The drainage area to the existing Cambridge Street storm sewer will be minimized with only Catchment R5 (0.16 ha) being tributary to the outlet. No development block areas will be tributary to the existing Cambridge Street storm sewer.

8.3 Stormwater Quantity Control Requirements

Hydrologic modeling was prepared for the post-development site conditions. The purpose of this modeling is to determine the detention storage requirements for the following to ensure that the SWM criteria can be met for the subject development:

- Lands Tributary to Regional SWM Facility (ultimately to High Street);
- Lands Directly Tributary to High Street;
- Lands Tributary to the Home Depot SWM Pond; and,
- Lands Tributary to the existing Cambridge Street storm sewer.

Crozier applied the stormwater management hydrologic computer program SWMHYMO to model the post-development on-site conditions, consistent with industry standard. The STANDHYD command was used to model the urban development conditions based on the level of imperviousness assumptions noted in Table 2. The NASHHYD command was applied to the external drainage areas located to the south of the site.

Table 2: Levels of Imperviousness Assumptions

Land Use	% Impervious
Development Blocks	85
Cambridge Street Extension	70
SWM Facility	50
Goodall Property	70
External Drainage Area	EXT1 – 0%; EXT2 - 36%

Hydrologic models were prepared for design storm events including the 25mm Chicago event for water quality and erosion protection, as well as the 5, 25, and 100 year return periods and Timmins Regional event for quantity control. Both 4-hour Chicago and 24-hour SCS design storms were modeled to determine which storm distribution results in the largest detention storage volume requirements.

The maximum allowable release rate for the Home Depot SWM Pond has been determined by preparing a hydrologic model of Catchment 201. To facilitate this model, the hydrologic parameters were extracted from the Home Depot SWM report. Refer to Appendix E for the Home Depot SWM report model.

Post-development catchment areas are illustrated on Figure 6. Refer to Appendix F for the hydrologic parameter sheets.

8.3.1 Results of Post-Development Hydrologic Modeling

Results from the hydrologic modeling are summarized in Table 3. Refer to Appendix F for the model input/output files.

Table 3: 100-Year SCS Hydrologic Modeling Results Summary

Tributary Area	Max. Allowable Release Rate (L/s)	Uncontrolled Peak Flow (L/s)	Detention Storage Required (Y/N)	Detention Storage (m^3)
Regional SWM Facility	161	4650[2]	Y	13700[1]
Directly to High Street			Y	955
Home Depot SWM Pond	792	794[3]	N	0
Existing Cambridge Street	43	43	N	0

Note: 1) Detention Storage is based on the stage-storage-discharge relationship of the SWM facility. Refer to Section __ for further discussion.
2) Excludes peak flows from the Goodall Site and Ext2.
3) flow increase represents a negiglible change as compared to the Home Depot SWM Pond model.

As indicated in Table 3, the total storage volume for the Regional SWM Facility and for lands directly tributary to High Street is 13,700 m^3 and 955 m^3, respectively. Refer to Section 8.5 for further discussion on the SWM Facility operating characteristics and the detention storage methods for lands directly tributary to High Street. Lands outletting to the Home Depot SWM pond and the Existing Cambridge Street do not require detention storage as the uncontrolled peak flow rates are below the maximum allowable release rates.

The SCS storm distribution proved to result in the largest detention storage requirements.

8.4 Stormwater Quality & Erosion Control

8.4.1 Lands Tributary to Regional SWM Facility

As indicated, stormwater quality controls are required to provide the "enhanced protection" (ie. 80% TSS removal) level for the SWM facility catchment area. Furthermore, 24 hour detention of the water quality event will provide erosion control. A SWM facility wetland has been selected as the preferred end-of-pipe treatment facility for the catchment area to meet these objectives.

Based on the MOE Stormwater Management Planning and Design Manual (2003) for "enhanced protection" and an impervious level of 85%, the minimum water quality storage volume required for a stormwater wetland is 140 m^3/ha. This volume is comprised of 100 m^3/ha permanent pool volume and 40 m^3/ha extended detention. Given a proposed contributing drainage area of 15.0 ha , the minimum water quality volumes required are as follows:

- Permanent Pool: 1500 m^3
- Extended Detention: 600 m^3

Erosion control will be achieved by incorporating extended detention into the operation of the proposed stormwater wetland. Sizing was based on providing 24 hours of extended detention of the runoff produced

following a short duration (4 hour) 25 mm storm event. Applying the above criteria yields an extended detention volume for erosion control of approximately 2,925 m^3, based on a runoff depth of 19.5 mm. A 120 mm diameter extended detention orifice has been designed into the configuration of the pond outlet to provide the necessary controls. According to the preliminary design of the SWM facility, the actual volumes provided are:

- Provided permanent pool: 2,500 m^3
- Provided extended detention 3,200 m^3

See Appendix G for extended detention orifice calculations. A sediment forebay has been provided at each of the four ponds to meet MOE criteria (see Appendix G for calculations related to forebay sizing).

8.4.2 Lands Tributary Directly Tributary to High Street

Block Level Controls (Catchments B2 and C)

Portions of Block 3 (Catchments B2 and C) that outlets to High Street will be required to provide block-level water quality control to a Level 1 'enhanced' protection criteria. Water quality control can include but not limited to the use of the following (or a combination thereof):

- Oil-grit separator;
- End-of-pipe SWM pond; and/or,
- Vegetated swales.

Public ROW Controls

It is proposed that given the negligible drainage area (0.16 ha), water quality control for the portion of Cambridge Street Extension that outlets to the existing Cambridge Street (Catchment R5) is not warranted.

Catchment R4 of Cambridge Street Extension will accept flows from the Goodall Site. Providing treatment for the road runoff will result in 'clean' stormwater from the roadway mixing with untreated water from the Goodall Site. This is not an ideal practice given that the TSS removal efficiency is highly impaired by the mixing of treated and untreated waters. Therefore, there are two options available:

1) Do not provide water quality control;
2) Provide water quality control on the Goodall Site as well as on Cambridge Street Extension.

Option 2 will involve the mixing of treated water from the Goodall Site and the Cambridge Street Extension. The total removal rate of the treatment train needs to be accounted for to demonstrate an overall TSS removal rate of 80%. A simplified equation for the total TSS removal rate (R) can be applied in this scenario.

$$\mathbf{R = A + B - [(A \times B) / 100]}$$

Where:

R = Total TSS Removal Rate
A = TSS Removal Rate of the Upstream Units (Block Level Treatment)
B = TSS Removal Rate of the Second or Downstream Unit (Public ROW)

Oil-grit separator sizing calculations can proceed on the basis of drainage area and impervious level, per industry standard. The selection of the water quality control method is subject to further discussions with Town staff during detailed design.

8.4.3 Lands Tributary to Home Depot

Per the Home Depot SWM Report, water quality control for runoff generated from Catchment 201 is provided by a treatment train approach consisting of a dry SWM pond and an oil-grit separator. Therefore, Sub-Catchment R6 does not require the implementation of water quality control measures.

8.5 Detention Storage Characteristics and Design Features

8.5.1 Regional SWM Facility

At the time of report preparation, it is proposed that the Regional SWM Facility will be owned and operated privately by Dunn Capital Corporation. Ownership may be subject to change as part of the approval process.

A preliminary design of the SWM facility has been completed. Refer to Figure 7 for the SWM Facility Plan. The permanent pool of the SWM facility has been set based on the upstream invert of the existing 675 mm diameter storm sewer, which has an approximate invert of 180.0 m. The invert is based on the Stantec Holborn Report – Figure 8: Stormwater Management Plan (October 2006). Should the 675 mm diameter storm sewer be in an unsuitable condition to use as an outlet for the SWM facility, a storm sewer could be extended from Ex. MH A on High Street (design invert 179.50) to the southeast pond along the alignment of the proposed SWM facility overland flow route. The permanent pool elevation can be maintained with this alternative storm sewer.

It was found that the water quantity control requirements governed the size of the outlet orifice. Therefore, the extended detention elevation has been set to provide 86 hour extended detention of the 25mm event runoff volume from the contributing lands.

The stage-storage- discharge relationship for the SWM facility is included in Appendix G. The operating levels of the proposed SWM facility, per SWMHYMO modeling, are summarized in Table 4.

Table 4: Regional SWM Facility Operating Characteristics

SWM Facility Level	Elevation (m)	Storage Volume (m^3)	
		Required	Provided
Base (deep zones)	179.20	-	-
Permanent Pool [1]	180.40	1500	2500
Extended Detention	180.85	2925	3200
100-Year SCS HWL	181.90	13700	13700
Regional	182.50	19390	19390
Top of Berm	182.60	20460	20460

Note: 1) Permanent pool volume represents dead storage, and all other volumes represent active storage.

The SWM facility has been designed to fully control the 100-year event from 15 ha of the subject lands and external contributing lands to 39 L/s. All discharge from the SWM facility for storm events up to and including the 100-year event will occur by way of the outlet structure. An overland flow route has been provided for the Regional event to safely convey flows to the High Street ROW. This overland flow route will also act as an emergency spill route in the event that the outlet structure was to become blocked.

The preliminary alignment of the equalization pipes have been shown on Figure 7. At the detailed design stage, the equalization pipes will be required to be sized to enable flows up to and including the Regional storm event to be distributed throughout the four ponds of the SWM facility without adverse operational level impacts to each of the four ponds.

At this preliminary juncture, an outlet structure consisting of a 120 mm diameter orifice will provide the required extended detention and water quantity controls. A reverse slope pipe will be used to draw cool water from a micro pool within the main cell. The outlet structure is subject to detailed design.

8.5.2 Lands Directly Tributary to High Street

Per Table 3, 955 m^3 of detention storage is required for Catchments B2, C, and R4. Per the hydrologic modeling, it is proposed to distribute the total required detention storage volume as per the following:

- Catchment B2 = 410 m^3;
- Catchment C = 370 m^3; and
- Catchment R4 = 175 m^3.

Public ROWs (Catchment R4)

At this preliminary juncture, an oversized storm sewer complete with orifice control has been selected as the preferred storage solution. All other viable storage options require additional land (i.e. pond). A 1050 mm ø storm sewer will provide the required detention storage of 175 m^3. The sizing of the orifice control device will be completed at the detailed design stage, with the requirement to convey at a minimum the uncontrolled minor (5-year) storm from the Goodall Site.

The desirability of Town staff to maintain the oversized pipe storage system is subject to further discussions with Town staff during the detailed design stage.

Development Blocks (Catchments B2 and C)

Catchments B2 and C will require detention storage options within the development blocks and could include the use of the following (or a combination thereof):

- SWM pond;
- Parking lot storage; and/or,
- Subsurface storage (i.e. Cultec, Triton, etc.).

It is noted that at this time, the NVCA does not support the use of rooftop storage system. The selection of the storage method including the use of the rooftop storage system should be vetted with the NVCA during the site plan approval stage of the given block.

Catchment C storm stub connection to the Cambridge Street Extension storm sewer is proposed to be located downstream of the orifice control to avoid backwater influences from the road storm sewer.

8.6 Alternative Outlet for Regional SWM Facility

As noted in Section 8.1, the alternative feasible stormwater outlet option is the Black Ash Creek. This section provides preliminary design details to demonstrate feasibility in outletting the SWM facility to Black Ash Creek via either pumping or through the use of an external trunk sewer. Per Section 8.5, the 100-year release rate from the SWM Facility is 39 L/s. The release rate could be increased given that there are no water quantity control requirements for site flows that are directed to the Black Ash Creek.

8.6.1 Black Ash Creek via Pumping

A stormwater pumping station could be incorporated into the outlet structure for the SWM facility to convey discharge from the pond for events up to and including the 100 year design storm. An overland flow route to High Street would still be required to serve as an outlet for the Regional event and as an emergency spill route.

Based on previous experience in the design of stormwater pumping stations, a wet well complete with two (2) Flygt pumps (Xylem Inc.) each with a capacity of 40 L/s can provide adequate pump capacity to discharge the 100-year attenuated peak flow from the SWM Facility (39 L/s) while providing a back-up pump for redundancy, subject to detailed design specifications. Pump Station controls could be incorporated into the design to enable the pump usage to be cycled, preventing uneven usage of the pumps. The stormwater pumping station could be equipped with a diesel generator set for backup power and SCADA controls for remote monitoring.

A proposed forcemain would convey flows from the SWM facility to Black Ash Creek. A forcemain, in the range of 200 mm to 375mm diameter would be required. The alignment and specifications of the forcemain are subject to detailed design. Head loss calculations including losses associated with friction, bends, tees, pipe fittings and valves in the station plumbing and forcemain infrastructure as well as tailwater elevations would be incorporated into the sizing calculations.

8.6.2 Black Ash Creek via an External Trunk Sewer

A storm sewer would be required to convey the said flow to the Black Ash Creek. Per Figure 5, a 340 m storm sewer would need to be installed along the existing Cambridge Street and First Street Extension, outleting at the BAC. This proposed storm sewer would serve as a dedicated sewer for the Regional SWM Facility, including runoff generated from Catchment R5 of the proposed Cambridge Street Extension ROW. The combined 100-year peak flow from Catchment R5 and the outlet from the Regional SWM Facility has been determined to be 83 L/s.

Based on a review of the aforementioned Burnside drawings, there is an existing sanitary sewer that provides a service to Wal-Mart, crosses First Street Extension approximately 60 m from BAC and has an obvert elevation of approximately 179.05 m. To meet the following design constraints, a 375 mm ø storm sewer at 0.25% is required:

- sufficient pipe cover to enable the use of pipe insulation;
- provide adequate vertical clearance above the sanitary sewer; and,
- have an invert of 180.40 m at the NW pond to maintain a permanent pool elevation of 180.40 m.

The horizontal and vertical alignment as well as the sizing of the storm sewer is subject to detailed design. The free flow capacity of the proposed storm sewer has been taken as 88 L/s at this preliminary stage.

8.6.3 Reduction of Flows to High Street

By diverting the SWM Facility outflow to the Black Ash Creek, the 100-year maximum release rate from the subject development is reduced from 160 L/s to 120 L/s.

9.0 PHASING OF STORMWATER INFRASTRUCTURE

As previously noted in Section 3.2, Dunn Capital Corporation will complete the construction of the Cambridge Street Extension, private laneway, High Street/Third Street intersection improvements, and a portion of the Regional SWM Facility. It is proposed to phase the construction of the Regional SWM Facility. The following is the phasing schedule of the SWM Facility:

- Phase 1: Construction of the northeast (NE) pond, outlet structure, and connection to the existing 675 mm diameter storm sewer to coincide with the construction of the Cambridge Street Extension and Private Laneway;
- Phase 2: Construction of the three outstanding ponds and overland flow route to High Street once a development block within the SWM facility catchment area is proposed.

It is noted that the three outstanding ponds may be constructed by the proponents of the development blocks. Therefore, the detailed design of the said ponds will be under the auspices of the site plan approval process for the development blocks. The water quality and quantity volume requirements outlined in Section 8.0 shall be treated as minimum values and serve as a guideline for the future detailed design of each of the three ponds.

Water quality and quantity control requirements have been determined to demonstrate that the SWM criteria will be met under Phase 1 conditions with the use of the NE Pond onlyand the oversized storm sewer within Cambridge Street Extension.

As consistent with the full build-out scenario, the SWM Criteria is the following:

Table 5: Phase 1 Water Quantity Control Criteria

Tributary Area	Max. Allowable Release Rate (L/s)
Regional SWM Facility (NE Pond Only)	161[1]
Directly to High Street	
Home Depot SWM Pond	792 L/s
Existing Cambridge Street	43 L/s

Note: 1) Maximum allowable release rate applies to the portion of the subject lands that will be tributary to the NE Pond as well as Catchment R4 since all other areas that are tributary to High Street will not be subject to construction during Phase 1 works.

- Water Quality Control
  - Runoff is to be treated prior to discharge meeting "Enhanced Protection" given Black Ash Creek and Georgian Bay as ultimate receivers.

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

- External Drainage Management
  - SWM design to accommodate external flows

9.1 Phase 1 Drainage Conditions

Under Phase 1 drainage conditions, 13.5 ha of the site will be tributary to the NE pond, 0.48 ha of Cambridge Street Extension will outlet to High Street via the oversized storm sewer storage system and the remainder of the site will outlet to High Street as per existing conditions.

Existing flows from Blocks 1 and 2 will be conveyed to the NE Pond. An interceptor swale along the west side of Cambridge Street Extension will collect and convey flows to a culvert, which will cross Cambridge Street and outlet to the NE Pond. The cross culvert will ultimately act as an equalization pipe for the Regional SWM facility. Refer to Figure 8 for the Phase 1 Drainage Plan.

Runoff generated from 0.8 ha of Cambridge Street Extension will outlet to the NE Pond via the proposed roadway storm sewer system. The remainder of Block 4 and 0.6 ha of Block 3 have been assumed to also be tributary to the NE pond, subject to the future demolition permits.

As consistent with the full build-out conditions, 0.48 ha of Cambridge Street Extension will outlet to High Street via the oversized storm sewer storage system.

9.2 Water Quantity Control

Hydrologic modeling has been prepared to demonstrate that the NE Pond and the oversized storm sewer within Cambridge Street Extension will meet the SWM criteria for Phase 1, per Table 5. Preliminary hydrologic modeling indicates that the 100-year and Regional water levels in the NE pond will result in

ponding in the low lying area within the northeast corner of Block 1. As a result, natural storage associated with ponding within Block 1 has been accounted for in the stage-storage-discharge relationship of the NE pond for Phase 1 conditions. Refer to Appendix H for the NE pond hydraulics spreadsheet. To contain the ponding within the Block 1 limits, a temporary berm will be constructed along the north limit of Block 1. Refer to Figure 8 for the ponding extents and preliminary berm design.

Results from the hydrologic modeling are summarized in Table 6. Refer to Appendix H for the model input/output files.

Table 6: 100-Year SCS Hydrologic Modeling Results Summary – Phase 1 Conditions

Tributary Area	Max. Allowable Release Rate (L/s)	Uncontrolled Peak Flow (L/s)	Detention Storage Required (Y/N)	Detention Storage (m^3)
NE Pond & Block 1 Ponding	161	1490	Y	6212[1]
Cambridge Street Extension (Catchment R4)			Y	175
Existing Cambridge Street	43	43	N	0

Note: 1) Detention Storage is based on the stage-storage-discharge relationship of the SWM facility. Refer to Section 9.3 for further discussion.

As indicated in Table 6, the total 100-year storage volume for the NE Pond and for lands directly tributary to High Street is 6212 m^3 and 175 m^3, respectively. Refer to Section 9.3 for further discussion on the SWM Facility operating characteristics. The 1050 mm diameter storm sewer proposed within Cambridge Street Extension will provide sufficient storage under Phase 1 conditions. The portion of Cambridge Street Extension outletting to the existing Cambridge Street does not require detention storage as the uncontrolled peak flow rates are below the maximum allowable release rates.

9.3 Water Quality Control

9.3.1 Lands Tributary to Northeast Pond

Based on the MOE Stormwater Management Planning and Design Manual (2003) for "enhanced protection" and an impervious level of 14%, the minimum water quality storage volume required for the Northeast Pond (stormwater wetland) is 54 m^3/ha. Refer to Appendix H for water quality volume calculations. This volume is comprised of 14 m^3/ha permanent pool volume and 40 m^3/ha extended detention. Given a proposed contributing drainage area of 13.5 ha, the minimum water quality volumes required are as follows:

- Permanent Pool = 189 m^3
- Extended Detention = 540 m^3.

Erosion control will be achieved by incorporating extended detention into the operation of the proposed stormwater wetland. Sizing was based on providing 24 hours of extended detention of the runoff produced following a short duration (4 hour) 25 mm storm event, Applying the above criteria yields an extended detention volume for erosion control of approximately 920 m^3, based on a runoff depth of 6.8 mm. A 205 mm diameter extended detention orifice has been designed into the configuration of the pond outlet to

provide the necessary controls. According to the preliminary design of the SWM facility, the actual volumes provided are:

- Provided permanent pool = 543 m^3
- Provided extended detention = 920 m^3

See Appendix H for extended detention orifice calculations.

Overall, the Northeast Pond operating characteristics are summarized in Table 7.

Table 7: North East Pond Facility Operating Characteristics – Phase 1 Conditions

SWM Facility Level	Elevation (m)	Storage Volume (m^3)	
		Required	Provided
Base (deep zones)	179.20	-	-
Permanent Pool [1]	180.40	189	543
Extended Detention	181.00	540	920
100-Year SCS HWL	181.50	6210	6210
Regional	182.00	16730	16730
Top of Berm	182.30	24572	24572

Note: 1) Permanent pool volume represents dead storage, and all other volumes represent active storage.

Once blocks become developed, the SWM facility outlet structure will require modifications. The 205 mm diameter orifice device will be required to be replaced with the 120 mm diameter orifice device, to suit full build-out conditions.

A berm has been specified along the north limit of Block 1 to contain the Regional ponding area within the subject lands.

9.3.2 Cambridge Street Extension (Catchment R4)

The water quality control method that is selected for the full build-out condition will be used for Phase 1 conditions. Refer to Section 8.4.

10.0 CONCLUSIONS & RECOMMENDATIONS

Based on the foregoing, we conclude that the proposed West End Commercial development can be serviced and meet the stormwater management objectives.

Phasing

1. The proponent intends to construct the Cambridge Street Extension, private laneway, High Street/Third Street intersection improvements, and a portion of the Regional SWM facility under the auspices of the Subdivision Agreement. The layout of the internal roadways and services within each development block will be designed at the site plan application stage for each respective development block.

Access

2. Access to the proposed development will be from two existing public roads namely Third Street and Cambridge Street as well as an existing private laneway along the south limit of the Home Depot site. As part of the proposed development, Cambridge Street will be extended to connect to the existing west limit of Third Street, thus creating a linkage between High Street and the south terminus of the existing Cambridge Street. The intersection of the private laneway and the Cambridge Street Extension will be a roundabout.
3. All roads will be constructed to Town Standards and assumed by the Municipality save and except internal roadways within the development blocks.

Sanitary Servicing & Potable Water Supply

4. The development will be fully serviced via the municipal sewage system via connections to the High Street trunk sewer. Connections to the existing Third Street sanitary sewer (west of High Street) and to the existing Block 4 sanitary stub are proposed. All gravity sanitary sewers within the proposed public ROW will be publicly owned and maintained.
5. The potable water supply will be provided by the Municipal water distribution system. A looped system is proposed via two connections: one connection to the Cambridge Street watermain and the second connection to the Third Street watermain.

Utilities

6. Utilities including hydro, gas, telephone and cable services are available.

Stormwater Management

7. The overall SWM strategy for the subject development will involve directing runoff to the High Street drainage system, with a small area (0.16 ha) tributary to the existing Cambridge Street storm sewer.
8. Based on assumptions incorporated into the High Street storm sewer system, the High Street outlet results in a highly restrictive target release rates for the subject development.
9. A Regional SWM Facility is proposed consisting of four cells surrounding the roundabout. At this time, it is proposed that the SWM Facility will be privately owned by Dunn Capital Corporation.

10. Due to site grading constraints, portions of the site cannot outlet to the Regional SWM Facility; as such, block level water quantity controls are required from a portion of Block 3. Furthermore, a 0.5 ha portion of Cambridge Street Extension will require detention storage. A superpipe has been selected as the preferred storage method for the public ROW.
11. A preliminary stormwater management plan for the proposed Phase 1 works has been completed demonstrating that the construction of only the Northeast Cell of the Regional SWM facility and the superpipe within the Cambridge Street Extension will meet the SWM criteria.
12. To provide design flexibility, alternative outlet options for the Regional SWM Facility have been examined with the conclusion that outletting the SWM facility via either a trunk storm sewer or by pumping are feasible options.

Given the above noted conclusions, we support the development of the subject lands from the perspective of the engineering servicing and stormwater management requirements.

Respectfully Submitted,

C.F. CROZIER & ASSOCIATES INC.

Kevin Morris, P.Eng.
Senior Project Manager

C.F. CROZIER & ASSOCIATES INC.

Darrin Tone, P.Eng.
Project Engineer

J:\100\183 - Landex Projects\2697 - 20 High St\Reports\FSR SWM\04072015_3rd Street FSRSWM.docx

APPENDIX A

High Street Storm Sewer Design Sheets

OAK
CEDAR
WALNUT RD
HICKORY
SPRUCE
STREET
FIR ST
SEC OND
THI RTH
FOU RTH
STREET TH
STREET FIF
SIXTH
SEVENTH
WAL EIGHTH
NUT
STREET
CLARKSON
CRESC.
FERGUSON RD.
PARK RD.
STREET
MPBELL
GIBBARD
WHIPPS CT.
CRESC.
TENTH
COURTICE
CRESCENT
GRIFFIN RD.
STREET
LOT 42
LOT 41
Mc PHERSON
CT.
WATTS
CRESC.
ELM
ST.
STREET
ELM
WATER
STREET
MURRAY CT.
HIGH
NO. 13
THIRD ST.
STEWART ROAD
3.6ha
3.9ha
3.3ha
3.9 ha
3.9 ha
3.7ha
5.0 ha
ROAD
FIRST
STREET
CAMBRIDGE
STREET
CREEK
UNDERWOOD
CREEK

HIGH STREET
DRAINAGE AREA
79209

SCALE 1"=600'

AINLEY AND ASSOCIATES
STORM SEWER DESIGN

Project No. 79209

Project Name High Street Reconstruction

Street High Street From Sixth Street

To First Street

Calculated By IN

Checked By LH

Date January 20, 1981

Rainfall Curve 5 Yr. Yarnell

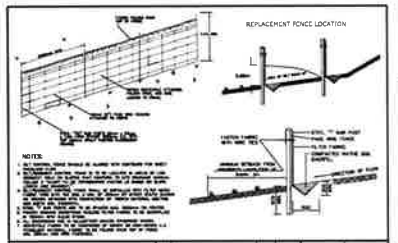
0.3% 60m of 525mm Sth to

FROM	TO	RUNOFF DATA						OUTLET PIPE DATA							REMARKS
Structure #	Structure #	Area Hectares	C	A.C.	Accum. A.C.	i mm/hr	m^3/S Q	Lgth m	Size mm	Grade %	Cap. m^3/S	Vel. m/S	Time Min	Total Time	
		5.0	0.4	2.0	2.0									39	TC
1	3	3.7	0.4	1.5	3.5	45.7	0.44	114	525	1.2	0.47	2.2	0.9	39.9	
3	5	3.9	0.4	1.6	5.1	45.7	0.63	120	600	1.2	0.67	2.4	0.8	40.7	
5	7	3.2	0.4	1.3	6.4	44.5	0.78	97	675	1.1	0.88	2.5	0.6	41.3	
7	9	3.9	0.4	1.6	8.0	44.5	0.97	121	750	1.1	1.17	2.6	0.8	42.1	
9	11	3.3	0.4	1.3	9.3	43.2	1.09	101	900	0.4	1.14	1.8	0.9	43.0	
11	13	3.9	0.4	1.6	10.9	42.0	1.25	121	975	0.4	1.42	1.9	1.1	44.1	
13	Existing at Second St.	3.6	0.4	1.4	12.3	40.6	1.36	112	975	0.4	1.42	1.9	1.0	45.1	
Existing Sewer								88	990	0.35	1.39	1.8			

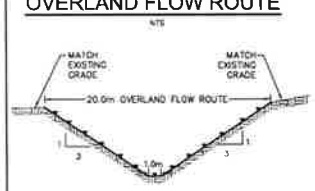
$Q = 0.00272 \times A \times C \times I$

APPENDIX B

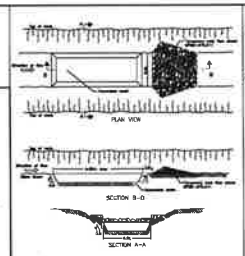
Parcels 1/2 Fill Control Grading and Sediment & Erosion Control Plan



OVERLAND FLOW ROUTE

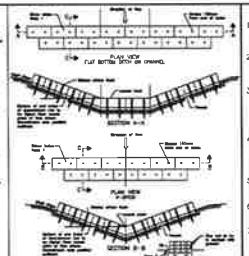


NOTE: SIDESLOPES & BOTTOM OF DITCH TO BE FINISHED WITH 100mm OF TOPSOIL, HYDROSEED & MULCH



EXCAVATED SEDIMENT TRAP

OPSD - 219.220



STRAW BALE FLOW CHECK

OPSD - 219.180

General Notes:

1. All construction equipment to use main access point, located at High Street, as indicated on this drawing. Mud mat to be constructed at access point.
2. No maintenance or repair work on construction equipment is allowed within 30 metres of an existing water course or ditch.
3. All Sediment and Erosion control facilities and works are to be constructed and in place to the approval of the Site Engineer prior to any grading operations commencing. Typical works include silt fences, interceptor swales, and straw bale check dams.
4. All temporary topsoil stockpiles are to be provided with the necessary sediment and erosion control features. If stockpiles are to remain for a period longer than 30 days, stockpiles shall be hydroseeded and surrounded with silt fence.
5. All interceptor swales are to be seeded to stabilize their banks immediately following construction.
6. Refer to application form for removal of trees within limits of fill area.
7. No tree clearing or disturbance of lands will occur within specified buffers along property lines and internal to site.

Maintenance & Operations of Sediment Controls

Silt Fence
1. Silt fence must be inspected weekly for rips or tears, broken stakes, blow-outs and accumulation of sediment.
2. Silt fence must be inspected following all 15mm or greater rain storm event or as directed by Site Engineer.
3. Sediment must be removed from silt fence when accumulation reaches 50% of the height of the fence.
4. All silt fences must be removed only when the entire site is stabilized and as directed by the Site Engineer.

Maintenance & Operations of Sediment Controls

Straw Bale Flow Check Dam
1. Remove accumulated sediment up stream of the check dam if greater than one half of dam height.
2. Silt removal must be undertaken with care to minimize down stream sedimentation in swale or ditch.
3. Straw Bale Check Dam and all accumulated sediment must be removed with care once the construction site is stabilized and as directed by the Site Engineer.

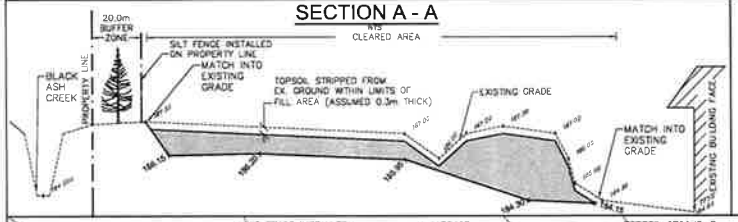
Mud Mat
1. Geotextile (Terrafix 270R or approved equal) to be placed as separation barrier between existing ground and clear stone.
2. Inspect mud mat weekly to assess condition and to ensure operation efficiency.
3. Supply and place additional clear stone as directed by Site Engineer.
4. Mat to remain in place until site is stabilized or as directed by Site Engineer.

Decommissioning

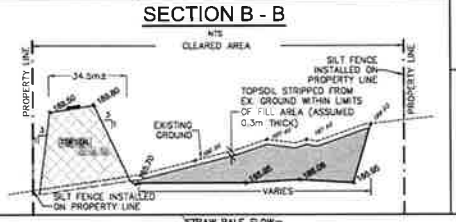
1 Following completion of construction and as directed by Site Engineer, all erosion and sediment control works are to be removed including any accumulated sediment.

2 All works located on lands outside the proposed development area are to be graded to match existing surrounding ground and hydroseeded.

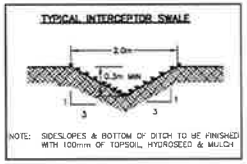
SECTION A - A



SECTION B - B



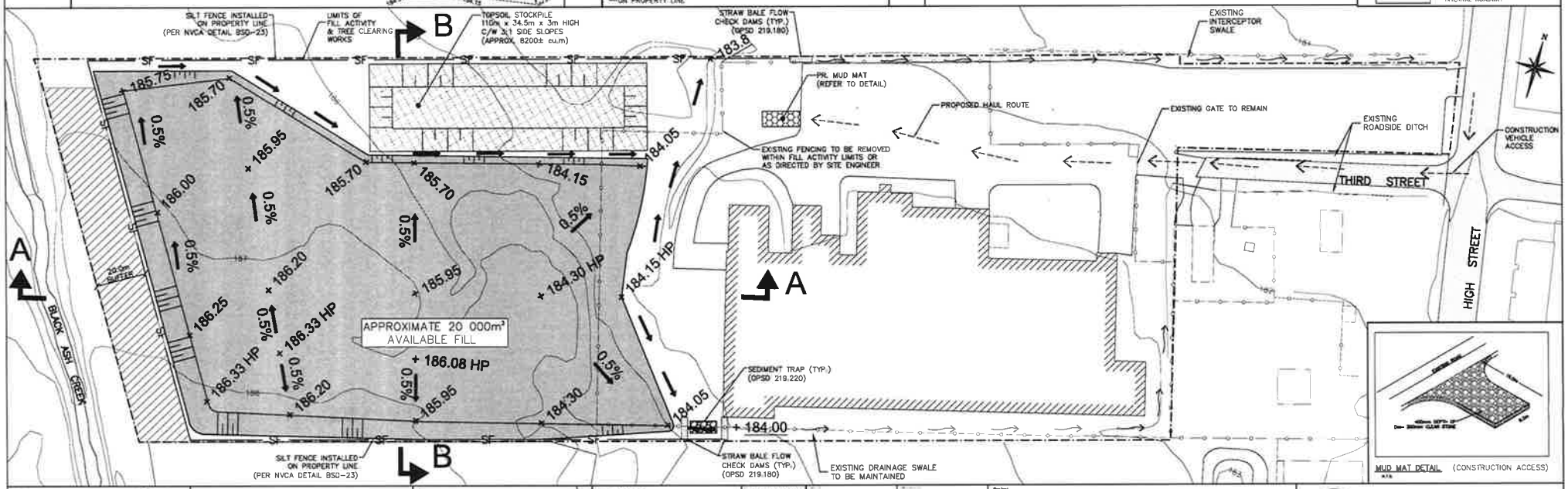
TYPICAL INTERCEPTOR SWALE



NOTE: SIDESLOPES & BOTTOM OF DITCH TO BE FINISHED WITH 100mm OF TOPSOIL, HYDROSEED & MULCH

LEGEND

- SF — NVCA SILT FENCE PER DETAIL BSD – 2.3
- MUD MAT REFER TO DETAIL
- FILL LOCATION
- STRAW BALE FLOW CHECK DAM AS PER OPSD 219.210
- SHEET FLOW DIRECTION
- x 181.35 — PROPOSED EXCAVATED GRADE FOR FILL AREA
- EXISTING GRADE
- EXISTING CONTOURS (TOWN OF COLLINGWOOD)
- INTERCEPTOR SWALE
- SHEET FLOW
- EXISTING ASPHALT PARKING LOT & INTERNAL ROADWAY



MUD MAT DETAIL (CONSTRUCTION ACCESS)

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2. The contractor shall verify all dimensions, levels, and datums on site and report any discrepancies or omissions to this office prior to construction.
3. This drawing is to be read and understood in conjunction with all other plans and documents applicable to this project.
4. Do not scale the drawings.
5. All existing underground utilities to be verified in the field by the contractor prior to construction.

TEMPORARY BENCHMARKS

No.	Issue / Revision	Date: MM/DD/YYYY
0	ISSUE FOR REVIEW	05/18/2007

Project: THIRD STREET COMMERCIAL
FILL CONTROL PERMIT REPORT
TOWN OF COLLINGWOOD

Drawing: FILL CONTROL GRADING & SEDIMENT & EROSION CONTROL PLAN

CF CROZIER & ASSOCIATES INC
LAND DEVELOPMENT ENGINEERS
110 HINE STREET, COLLINGWOOD ON L9Y 3Z9
T. 705-445-2810
F. 705-445-2820
CFCROZIER.CA

Drawn By	K.C.C.	Check By	N.M.	Project No.	183-2697-504
Scale	1:750	Date	04/25/2007	Drawing No.	FIG. 5

APPENDIX C

Anticipated Sanitary Flow Calculations

CROZIER & ASSOCIATES
Consulting Engineers

Project No.: 183-2697
Project Name: 3rd Street Commercial
Date: 9-Apr-2015
FILE: MasterSaniSpreadsheet

Individual Catchments

SANITARY SEWER DESIGN MODEL

DESIGN: D.Tone, P. Eng.
CHECK:
UPDATED:

Manning's N = 0.013
Population = 2.9 p.p.u.
17 Units/ha
50 Persons/ha

Average Residential Flow Rate = 450 L/cap/d
Residential Infiltration Rate = 0.23 L/s/ha
Residential Peaking Factor = M = 1+(14/4+(P/1000)^0.5) (H
Commercial Infiltration Rate = 0.11 L/ha/s
Commercial Average Flow Rate = 28000 L/ha/d
Commercial Peaking Factor = 2

			Residential						Commercial				
	Area Designation	FROM	Area (ha)	Units	Gross Pop.	Res. Peaking Factor	Peak Flow (L/s)	Infiltration (L/s)	Area (ha)	Average Flow (L/s)	Peak Flow (L/s)	Infiltration (L/s)	Design Flow (L/s)
	Commercial	Block 4	1.02	n/a	n/a	n/a	n/a	n/a	1.00	0.3	0.6	0.11	0.76
	Commercial	Block 3	2.71	n/a	n/a	n/a	n/a	n/a	2.10	0.7	1.4	0.23	1.59
	Commercial/Residential	Block 1	5.04	86	248	4.11	5.3	1.2	5.04	1.6	3.3	0.55	10.29
	Commercial/Residential	Block 2	1.53	26	75	4.28	1.7	0.4	1.53	0.5	1.0	0.17	3.19
	Total		**10.295**	**112**	**324**	**4.06**	**6.9**	**2.4**	**9.665**	**3.1**	**6.3**	**1.06**	**16.5**

Notes:

APPENDIX D

Parcels 1/2 Pre-Development Drainage Plan

File Last Updated: Wed, 16 May 2007

Drawing: J:\183 - LANDEX PROJECTS\2697 - THIRD ST COMMERCIAL\CAD\2697_702-707.DWG, Layout: Tab:704

LEGEND

- PROPERTY BOUNDARY
- PRE-DEVELOPMENT DRAINAGE AREAS
- CATCHMENT I.D. / U=URBAN, TOTAL IMPERVIOUSNESS (%) / R=RURAL, CURVE NUMBER / AREA (ha)
- EXISTING CONTOUR (1.0m INTERVAL)
- FLOW DIRECTION

N

HOLBORN PROPERTY

EXISTING INTERCEPTOR SWALE

EX. PARKING & INTERNAL ROAD SYSTEM

EXISTING ROADSIDE DITCH

EX. THIRD STREET

EX. 17.4m-300mmø U/S INV 181.50 D/S INV 181.66

EX. 27.2m-300mmø U/S INV 181.57 D/S INV 181.38

EX. 8.1m-300mmø U/S INV 181.27 D/S INV 181.29

EX. 8.4m-300mmø U/S INV 181.32 D/S INV 181.32

NOTE: EX. DITCH TO BE REGRADED
EX. CULVERTS TO BE RELOCATED

EX. COMMERCIAL BUILDING

HIGH STREET

BLACK ASH CREEK

EXISTING DRAINAGE SWALE

EX. PARKING

EX. BUILDINGS

EXT1 0.6 94

EXT2 1.9 36

1 2.6 79 R

2 4.2 70 U

3 0.15 82 R

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3. This drawing is to be read and understood in conjunction with all other plans and documents applicable to this project.
4. Do not scale the drawings.
5. All existing underground utilities to be verified in the field by the contractor prior to construction.

TEMPORARY BENCHMARKS

No.	Issue / Revision	Date: MM/DD/YYYY
0	ISSUE FOR REVIEW	04/20/2007

Project: THIRD STREET COMMERCIAL
TOWN OF COLLINGWOOD

Drawing: PRE-DEVELOPMENT DRAINAGE PLAN

CF CROZIER & ASSOCIATES INC
LAND DEVELOPMENT ENGINEERS
110 PINE STREET COLLINGWOOD ON L9Y 2N9
T 705.445.3510 F 705.445.3520 CFCROZIER.CA

Drawn By	J.R.S.	Check By	N.M.	Project No.	183-2697-704
Scale	1:1500	Date	03/22/2007	Drawing No.	FIG. 4

APPENDIX E

Home Depot Stormwater Management Plan

TOPOGRAPHICAL PLAN OF
PART OF THE SOUTH HALF OF LOT 44
CONCESSION 10
(FORMERLY THE TOWNSHIP OF NOTTAWASAGA)
TOWN OF COLLINGWOOD
COUNTY OF SIMCOE

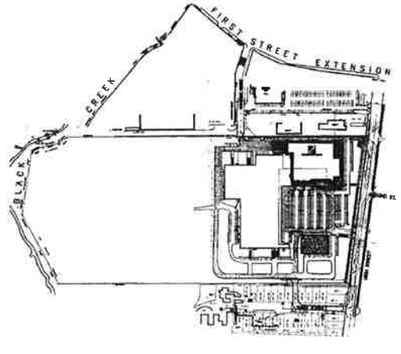
NOTES:

1. TOPOGRAPHIC SURVEY PROVIDED BY TURNER FLEISCHER ARCHITECT INC
2. THIS PLAN TO BE READ IN CONJUNCTION WITH THE SERVICING PLAN, LANDSCAPE PLAN, AND REMOVALS, STORM WATER MANAGEMENT PLAN
3. THIS PLAN NOT TO BE USED FOR LAYOUT.
4. ALL EXISTING FILL MATERIAL TO BE REMOVED PER RECOMMENDATIONS OF GEOTECHNICAL ENGINEER.
5. POND CONSTRUCTION METHODS TO CONFORM TO THE RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEER.

LEGEND

- EXISTING CONTOUR LINE
- EXISTING DITCH
- x 182.00 — PROPOSED FINISHED ASPHALT GRADES HOME DEPOT DEVELOPMENT
- x 182.50TC — TOP OF CURB ELEVATION
- S—S—S — HEAVY DUTY SILT FENCE (PER NVCA REQUIREMENTS)
- BARRIER CURB AS PER OPSD.600.110(TYP.)
- ROOF DRAIN (SURN 2105)
- DIRECTION OF OVERLAND FLOW (MAJOR SYSTEM)
- DIRECTION OF OVERLAND FLOW (MINOR SYSTEM)
- PROPOSED STORM MANHOLE
- PROPOSED CATCHBASIN MANHOLE
- PROPOSED DOUBLE CATCHBASIN
- PROPOSED CATCHBASIN
- 202 / 0.80 — POST DEVELOPMENT CATCHMENT AREA (HA)

C3.0 STORMWATER MANAGEMENT PLAN
SCALE: 1:500



C3.0 KEY PLAN
SCALE: NTS

PINESTONE ENGINEERING LTD.
Consulting Engineers
10 Kimberley Avenue
Bracebridge, ON P1L 1Z8
T. (705) 645-4401
F. (705) 645-1501
E. pinestone@bell.ca

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THE HOME DEPOT

BLACK ASH CREEK
COLLINGWOOD, ONTARIO

THE HOME DEPOT CANADA INC.

ONTARIO

REVISIONS
- ISSUED-SPA 20.08.05
- TOWN COMMENTS 14.06.5
- NVCA COMMENTS 11.01.06
- BUILDING PERMIT APPLICATION 10.02.06
- NVCA COMMENTS 09.03.06
- TOWN COMMENTS / HIGH ST. RE
- 18.14.06

COLLINGWOOD, ONTARIO
STORE NUMBER 7234
PINESTONE PROJECT NO 05-10363

C3.0

STORMWATER MANAGEMENT PLAN

```
00001> 2     Metric units
00002> *#**************************************************************************
00003> *#  Project Name: [Post -  Home Depot Model - Catchment 201] Project: [183-2697]
00004> *#  Date         : 11-17-2014
00005> *#  Modeller     : TM
00006> *#  Company      : C.F. Crozier & Associates Inc.
00007> *#  License #    :  3737016
00008> *#**************************************************************************
00009> START               TZERO=[0.0],  METOUT=[2],  NSTORM=[0],  NRUN=[0]
00010> *%                   [  ] <--storm filename, one per line for NSTORM time
00011> *#------------------|-------------------------------------------------------|
00012> *#------------------|------------ POST-DEVELOPMENT ------------------------|
00013> *#**************************************************************************
00014> *#------------------|-----100 YEAR EVENT - 24H SCS DISTRIBUTION-------------|
00015> *#------------------|-------------------------------------------------------|
00016> *#   Rainfall Depths per MTO - West of and Including Collingwood
00017> *#                   Chicago Rainfall Distribution
00018> *#------------------|-------------------------------------------------------|
00019> *#--------These storms are the SCS Volumes from MTO Design Chart 1.01(e)-------|
00020> *#         District 5: Owen Sound, West of and including Collingwood.
00021> *#------------------|-------------------------------------------------------|
00022> MASS STORM          PTOTAL=[108.0](mm), CSDT=[1](min),
00023>                     CURVE_FILENAME=["SCS24HII.mst"]
00024> *#------------------|-------------------------------------------------------|
00025> CALIB STANDHYD      ID=[1], NHYD=["201"], DT=[1](min), AREA=[2.53](ha),
00026>                     XIMP=[0.90], TIMP=[0.90], DWF=[0](cms), LOSS=[2],
00027>                     SCS curve number CN=[74],
00028>                     Pervious   surfaces: IAper=[4](mm), SLPP=[2](%),
00029>                                          LGP=[40](m), MNP=[0.25], SCP=[0](min),
00030>                     Impervious surfaces: IAimp=[2](mm), SLPI=[1](%),
00031>                                          LGI=[129.9](m), MNI=[0.013], SCI=[0](mi
00032>                     RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
00033> *%------------------|-------------------------------------------------------|
00034>
00035>
00036> FINISH
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```

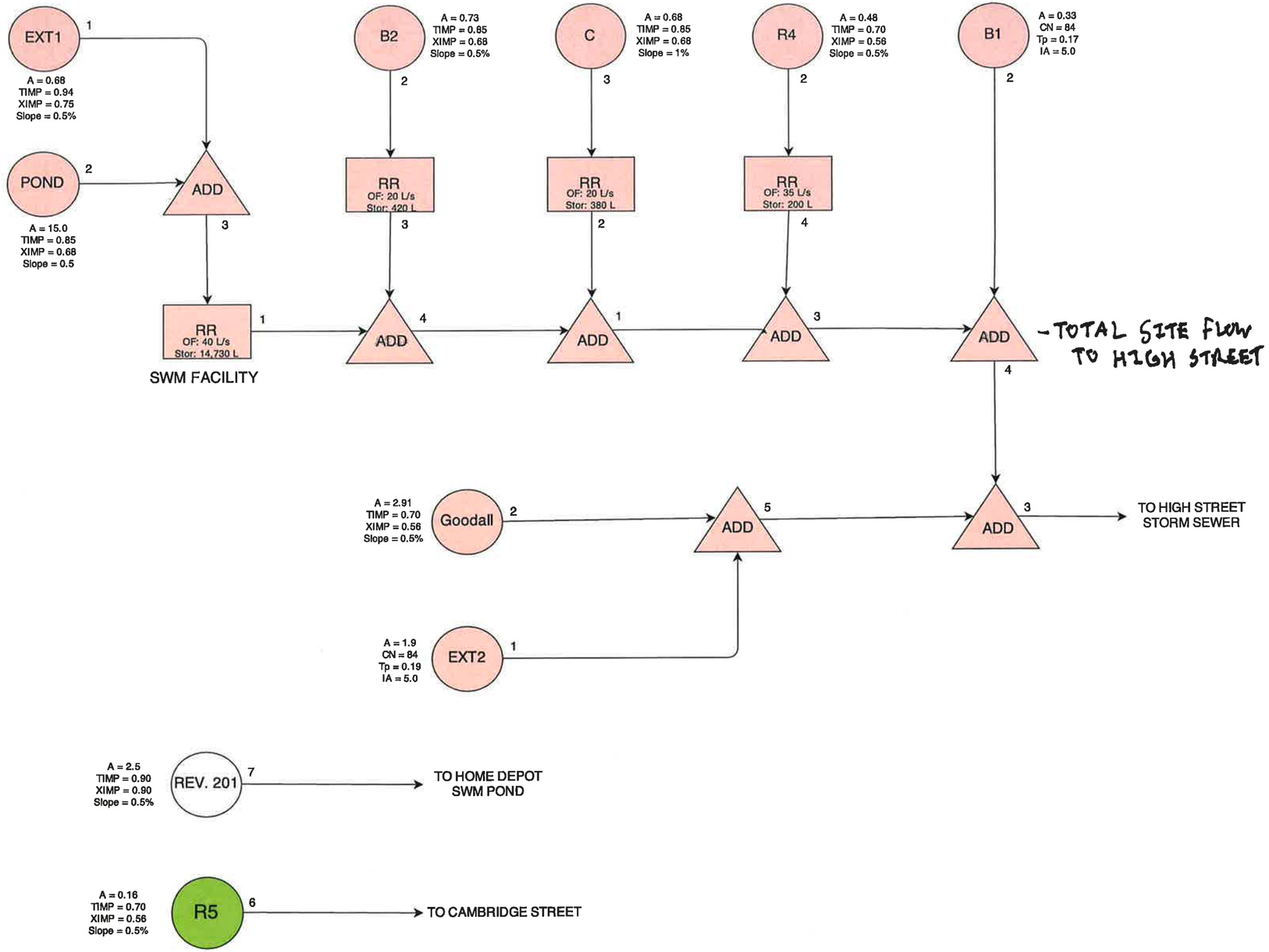
```
00001> ================================================================================
00002>
00003>    SSSSS  W   W  M   M  H   H  Y   Y  M   M   OOO         999    999     *********
00004>    S      W W W  MM MM  H   H   Y Y   MM MM  O   O      9   9  9   9
00005>    SSSSS  W W W  M M M  HHHHH    Y    M M M  O   O  ##  9   9  9   9   Ver  4.05
00006>        S  W W W  M   M  H   H    Y    M   M  O   O       9999   9999   Sept 2011
00007>    SSSSS   W W   M   M  H   H    Y    M   M   OOO            9      9   *********
00008>                                                           9   9  9   9   # 3737016
00009>          StormWater Management HYdrologic Model            999    999    *********
00010>
00011> ********************************************************************************
00012> ***************************** SWMHYMO Ver/4.05 ***********************************
00013> *********  A single event and continuous hydrologic simulation model  *********
00014> *********      based on the principles of HYMO and its successors      *********
00015> *********                 OTTHYMO-83 and OTTHYMO-89.                   *********
00016> ********************************************************************************
00017> ********* Distributed by:  J.F. Sabourin and Associates Inc.           *********
00018> *********                  Ottawa,  Ontario: (613) 836-3884            *********
00019> *********                  Gatineau, Quebec: (819) 243-6858            *********
00020> *********                  E-Mail: swmhymo@jfsa.com                    *********
00021> ********************************************************************************
00022>
00023> ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
00024> +++++++++ Licensed user: C.F. Crozier & Associates Inc.              ++++++++++
00025> +++++++++                 Collingwood           SERIAL#:3737016     ++++++++++
00026> ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
00027>
00028> ********************************************************************************
00029> *********           ++++++ PROGRAM ARRAY DIMENSIONS ++++++              *********
00030> *********           Maximum value for ID numbers  :     10             *********
00031> *********           Max. number of rainfall points: 105408             *********
00032> *********           Max. number of flow points    : 105408             *********
00033> ********************************************************************************
00034>
00035> ***** DESCRIPTION SUMMARY TABLE HEADERS (units depend on METOUT in START) *****
00036> *****------------------------------------------------------------------------*****
00037> *****    ID:  Hydrograph IDentification numbers, (1-10).                     *****
00038> *****  NHYD:  Hydrograph reference numbers, (6 digits or characters).        *****
00039> *****  AREA:  Drainage area associated with hydrograph, (ac.) or (ha.).      *****
00040> ***** QPEAK:  Peak flow of simulated hydrograph, (ft^3/s) or (m^3/s).       *****
00041> ***** TpeakDate_hh:mm is the date and time of the peak flow.                 *****
00042> *****  R.V.:  Runoff Volume of simulated hydrograph, (in) or (mm).          *****
00043> *****  R.C.:  Runoff Coefficient of simulated hydrograph, (ratio).          *****
00044> *****    *:   see WARNING or NOTE message printed at end of run.           *****
00045> *****   **:   see  ERROR  message printed at end of run.                   *****
00046> ********************************************************************************
00047> ********************************************************************************
00048>
00049> ::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
00050>
00051> ********************************************************************************
00052>
00053> ***********************   S U M M A R Y   O U T P U T   ************************
00054> ********************************************************************************
00055> *          DATE: 2014-11-17     TIME: 16:27:45     RUN COUNTER: 000055          *
00056> ********************************************************************************
00057> * Input   filename: C:\SWMHYMO\183-2647\SCS\SCS100.dat                          *
00058> * Output  filename: C:\SWMHYMO\183-2647\SCS\SCS100.out                          *
00059> * Summary filename: C:\SWMHYMO\183-2647\SCS\SCS100.sum                          *
00060> * User comments:                                                               *
00061> * 1:_____________________________________________________________________     *
00062> * 2:_____________________________________________________________________     *
00063> * 3:_____________________________________________________________________     *
00064> ********************************************************************************
00065>
00066>
00067> #*******************************************************************************
00068> #  Project Name: (Post -  Home Depot Model - Catchment 201] Project: [183-2697]
00069> #  Date       : 11-17-2014
00070> #  Modeller   : TM
00071> #  Company    : C.F. Crozier & Associates Inc.
00072> #  License #  :  3737016
00073> #*******************************************************************************
00074>  RUN:COMMAND#
00075>  001:0001-------------------------------------------------------------------------
00076>      START
00077>       [TZERO =    .00 hrs on        0]
00078>       [METOUT=   2    (1=imperial, 2=metric output)]
00079>       [NSTORM=   0 ]
00080>       [NRUN  =   1 ]
00081> #-----------------|-------------------------------------------------------------|
00082> #-----------------|---------- POST-DEVELOPMENT ------------------------------
00083> #*******************************************************************************
00084> #-----------------|-----100 YEAR EVENT - 24H SCS DISTRIBUTION-----------------|
00085> #-----------------|-------------------------------------------------------------|
00086> #   Rainfall Depths per MTO - West of and Including Collingwood
00087> #                  Chicago Rainfall Distribution
00088> #-----------------|-------------------------------------------------------------|
00089> #--------These storms are the SCS Volumes from MTO Design Chart 1.01(e)--------|
00090> #         District 5: Owen Sound, West of and including Collingwood.
00091> #-----------------|-------------------------------------------------------------|
00092>  001:0002-------------------------------------------------------------------------
00093>      MASS STORM
00094>       Filename = C:\SWMHYMO\183-2647\SCS\SCS24HII.mst
00095>       Comment  = 24 hour SCS II storm mass curve
00096>       [SDT= 1.00:SDUR=  24.00:PTOT= 108.00]
00097> #-----------------|-------------------------------------------------------------|
00098>  001:0003---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00099>      CALIB STANDHYD     01:201            2.53     .792 No_date   12:12  101.00
00100>       {XIMP=.90:TIMP=.90}
00101>       [LOSS= 2 :CN= 74.0]
00102>       [Pervious     area: IAper= 4.00:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
00103>       [Impervious   area: IAimp= 2.00:SLPI=1.00:LGI= 130.:MNI=.013:SCI=   .0]
00104>  001:0004-------------------------------------------------------------------------
00105>      FINISH
00106> -------------------------------------------------------------------------------
00107> ********************************************************************************
00108>      WARNINGS / ERRORS / NOTES
00109>      -------------------------
00110>    Simulation ended on 2014-11-17     at 16:27:45
00111> ********************************************************************************
00112>
```

APPENDIX F

Full Build-out Hydrologic Modeling

West End Commercial - 4 pond SWM facility

Apr. 9, 2015
183-2697



LEGEND

Ex. High St. Storm Sewer Outlet

Ex. Cambridge St. 300mm Storm Sewer

CONTROLLED


```
2      Metric units
*#*****************************************************************************
*#  Project Name:  [West End Commercial, Collingwood]    Project Number: [183-269
*#  Date         : April 9, 2015
*#  Modeller     : [T. MacDougall]
*#  Company      : CF Crozier & Associates Inc.
*#  License #    :  3737016
*#*****************************************************************************
*#   Proposed Conditions - 4 Cell Pond
*#
*#   Rainfall Data:  Storms are the SCS Volumes from MTO Design Chart 1.01(e)
*#   District 5: Owen Sound, Basins West of and including Collingwood.
*#-----------------|------------------------------------------------------------|
START                   TZERO=[0.0],   METOUT=[2],   NSTORM=[0],   NRUN=[0]
*%                       [  ] <--storm filename, one per line for NSTORM time
*#-----------------|------------------------------------------------------------|
*#*****************************************************************************
*#                                     25mm Event
*#*****************************************************************************
*#-----------------|------------------------------------------------------------|
CHICAGO STORM           IUNITS=[2],   TD=[4](hrs), TPRAT=[0.333],   CSDT=[5](min),
                        ICASEcs=[1],
                         A=[568.700],   B=[6.662], and C=[0.819],
*#-----------------|------------------------------------------------------------|
*#------------------------------------- OUTLET: HIGH STREET --------------------|
*#-----------------|------------------------------------------------------------|
*#-----------------|------------------- EXTERNAL AREA #1 -----------------------|
*#-----------------|------------------------------------------------------------|
CALIB STANDHYD          ID=[1], NHYD=["EXT1"], DT=[1](min), AREA=[0.6](ha),
                        XIMP=[0.75], TIMP=[0.94], DWF=[0](cms), LOSS=[2],
                        SCS curve number CN=[84],
                        Pervious   surfaces: IAper=[5.0](mm), SLPP=[0.5](%),
                                             LGP=[40](m), MNP=[0.25], SCP=[0](min),
                        Impervious surfaces: IAimp=[2.0](mm), SLPI=[1.0](%),
                                             LGI=[120](m), MNI=[0.013], SCI=[0](min)
                        RAINFALL=[ ,   ,   ,   , ](mm/hr) ,   END=-1
*#-----------------|------------------------------------------------------------|
*#-----------------|------- SITE AREA CONTRIBUTING TO SWM FACILTY --------------|
*#-----------------|------------------------------------------------------------|
CALIB STANDHYD          ID=[2], NHYD=["AREA"], DT=[1](min), AREA=[15](ha),
                        XIMP=[0.68], TIMP=[0.85], DWF=[0](cms), LOSS=[2],
                        SCS curve number CN=[84],
                        Pervious   surfaces: IAper=[5](mm), SLPP=[0.5](%),
                                             LGP=[40](m), MNP=[0.25], SCP=[0](min),
                        Impervious surfaces: IAimp=[2](mm), SLPI=[0.5](%),
                                             LGI=[300](m), MNI=[0.013], SCI=[0](min)
                        RAINFALL=[ ,   ,   ,   , ](mm/hr) ,   END=-1
*#-----------------|------------------------------------------------------------|
ADD HYD                 IDsum=[3], NHYD=["ToPond"], IDs to add=[1+2]
*#-----------------|------------------------------------------------------------|
*#------------------------------- REGIONAL SWM FACILITY ------------------------|
*#-----------------|------------------------------------------------------------|
ROUTE RESERVOIR         IDout=[1],    NHYD=["StSWM"],   IDin=[3],
                        RDT=[1](min),
                             TABLE of ( OUTFLOW-STORAGE ) values
                                        (cms) - (ha-m)
                                      [   0.0 ,  0.0   ]
                                      [ 0.019 ,  0.280 ]
                                      [ 0.024 ,  0.450 ]
                                      [ 0.033 ,  0.935 ]
                                      [ 0.037 ,  1.252 ]
                                      [ 0.040 ,  1.473 ]
                                      [ 0.043 ,  1.755 ]
                                      [ 0.222 ,  1.846 ]
                                      [ 1.739 ,  2.046 ]
                                      [   -1  ,  -1    ]   (max twenty pts)
                             IDovf=[9], NHYDovf=["OVF"]
*#-----------------|------------------------------------------------------------|
*#------------------------------------- B2 ------------------------------------|
*#-----------------|------------------------------------------------------------|
DESIGN STANDHYD         ID=[2], NHYD=["B2"], DT=[1]min, AREA=[0.73](ha),
                        XIMP=[0.68], TIMP=[0.85], DWF=[0](cms), LOSS=[2], CN=[84],
                        SLOPE=[0.5](%), RAINFALL=[ , , , , ](mm/hr), END=-1
*#-----------------|------------------------------------------------------------|
ROUTE RESERVOIR         IDout=[3],    NHYD=["StorB2"],   IDin=[2],
                        RDT=[1](min),
                             TABLE of ( OUTFLOW-STORAGE ) values
                                        (cms) - (ha-m)
                                      [    0.0 ,  0.0   ]
                                      [  0.020,  0.042 ]
                                      [   -1   ,  -1    ]   (max twenty pts)
                             IDovf=[9], NHYDovf=["OVF"]
*#-----------------|------------------------------------------------------------|
ADD HYD                 IDsum=[4], NHYD=["SumB2"], IDs to add=[1+3]
*#-----------------|------------------------------------------------------------|
*#-------------------------------------- C ------------------------------------|
*#-----------------|------------------------------------------------------------|
DESIGN STANDHYD         ID=[3], NHYD=["C"], DT=[1]min, AREA=[0.68](ha),
                        XIMP=[0.68], TIMP=[0.85], DWF=[0](cms), LOSS=[2], CN=[84],
                        SLOPE=[1.0](%), RAINFALL=[ , , , , ](mm/hr), END=-1
*%-----------------|------------------------------------------------------------|
ROUTE RESERVOIR         IDout=[2],    NHYD=["StC"],   IDin=[3],
                        RDT=[1](min),
                             TABLE of ( OUTFLOW-STORAGE ) values
                                        (cms) - (ha-m)
                                      [    0.0 ,  0.0   ]
                                      [  0.020 ,  0.038 ]
                                      [   -1   ,  -1    ]   (max twenty pts)
                             IDovf=[9], NHYDovf=["OVF"]
*#-----------------|------------------------------------------------------------|
ADD HYD                 IDsum=[1], NHYD=["SumC"], IDs to add=[2+4]
*#-----------------|------------------------------------------------------------|
*#------------------------------------- R4 ------------------------------------|
*#-----------------|------------------------------------------------------------|
DESIGN STANDHYD         ID=[2], NHYD=["R4"], DT=[1]min, AREA=[0.48](ha),
                        XIMP=[0.56], TIMP=[0.70], DWF=[0](cms), LOSS=[2], CN=[84],
                        SLOPE=[0.5](%), RAINFALL=[ , , , , ](mm/hr), END=-1
*#-----------------|------------------------------------------------------------|
ROUTE RESERVOIR         IDout=[4],    NHYD=["StR4"],   IDin=[2],
                        RDT=[1](min),
                             TABLE of ( OUTFLOW-STORAGE ) values
                                        (cms) - (ha-m)
                                      [    0.0 ,   0.0  ]
                                      [  0.035,   0.020]
                                      [   -1  ,   -1   ]   (max twenty pts)
                             IDovf=[9], NHYDovf=["OVF"]
*#-----------------|------------------------------------------------------------|
*#-----------------|---- CONTROLLED DISCHARGE TO HIGH STREET FROM SITE ---------|
*#-----------------|------------------------------------------------------------|
ADD HYD                 IDsum=[3], NHYD=["HighSt"], IDs to add=[1+4]
*#-----------------|------------------------------------------------------------|
*#------------------------------------- B1 ------------------------------------|
*#-----------------|------------------------------------------------------------|
CALIB NASHYD            ID=[2], NHYD=["B1"], DT=[1]min, AREA=[0.33](ha),
                        DWF=[0](cms),   CN/C=[84], IA=[5.0](mm),
                        N=[3], TP=[0.17]hrs,
                        RAINFALL=[ ,   ,   ,   , ](mm/hr),   END=-1
*#-----------------|------------------------------------------------------------|
*#-----------------|---- TOTAL DISCHARGE TO HIGH STREET FROM SITE --------------|
*#-----------------|------------------------------------------------------------|
ADD HYD                 IDsum=[4], NHYD=["SumB1"], IDs to add=[2+3]
*#-----------------|------------------------------------------------------------|
*#-----------------|---------------- EXTERNAL AREA #2 --------------------------|
*#-----------------|------------------------------------------------------------|
CALIB NASHYD            ID=[1], NHYD=["EXT2"], DT=[1]min, AREA=[1.9](ha),
                        DWF=[0](cms),   CN/C=[84], IA=[5.0](mm),
                        N=[3], TP=[0.17]hrs,
                        RAINFALL=[ ,   ,   ,   , ](mm/hr),   END=-1
*#-----------------|------------------------------------------------------------|
*#-----------------|---------------GOODALL SITE--------------------------------|
*#-----------------|------------------------------------------------------------|
CALIB STANDHYD          ID=[2], NHYD=["Goodall"], DT=[1](min), AREA=[2.91](ha),
                        XIMP=[0.56], TIMP=[0.70], DWF=[0](cms), LOSS=[2],
                        SCS curve number CN=[84],
                        Pervious   surfaces: IAper=[5.0](mm), SLPP=[0.5](%),
                                             LGP=[40](m), MNP=[0.25], SCP=[0](min),
                        Impervious surfaces: IAimp=[2.0](mm), SLPI=[0.5](%),
                                             LGI=[240](m), MNI=[0.013], SCI=[0](min)
                        RAINFALL=[ ,   ,   ,   , ](mm/hr) ,   END=-1
*#-----------------|------------------------------------------------------------|
ADD HYD                 IDsum=[5], NHYD=["GdSum"], IDs to add=[1+2]
*#-----------------|------------------------------------------------------------|
*#-----------------|--------- TOTAL DISCHARGE TO HIGH STREET -------------------|
*#-----------------|------------------------------------------------------------|
ADD HYD                 IDsum=[3], NHYD=["HighTot"], IDs to add=[4+5]
*#-----------------|------------------------------------------------------------|
*#-------------------------------- OUTLET: CAMBRIDGE STREET --------------------|
*#-----------------|------------------------------------------------------------|
*#------------------------------------- R5 ------------------------------------|
*#-----------------|------------------------------------------------------------|
DESIGN STANDHYD         ID=[6], NHYD=["R5"], DT=[1]min, AREA=[0.16](ha),
                        XIMP=[0.56], TIMP=[0.70], DWF=[0](cms), LOSS=[2], CN=[84],
                        SLOPE=[0.5](%), RAINFALL=[ , , , , ](mm/hr), END=-1
*#-----------------|------------------------------------------------------------|
*#-------------------------------- OUTLET: HOME DEPOT --------------------------|
*#------------------------------------ SWM POND --------------------------------|
*#----------------------------------- REVISED 201 ------------------------------|
*#-----------------|------------------------------------------------------------|
CALIB STANDHYD          ID=[7], NHYD=["Rev201"], DT=[1](min), AREA=[2.50](ha),
                        XIMP=[0.9], TIMP=[0.9], DWF=[0](cms), LOSS=[2],
                        SCS curve number CN=[84],
                        Pervious   surfaces: IAper=[5.0](mm), SLPP=[2](%),
                                             LGP=[40](m), MNP=[0.25], SCP=[0](min),
                        Impervious surfaces: IAimp=[2](mm), SLPI=[1](%),
                                             LGI=[130](m), MNI=[0.013], SCI=[0](min)
                        RAINFALL=[ ,   ,   ,   , ](mm/hr) ,   END=-1
*#-----------------|------------------------------------------------------------|
*#*****************************************************************************
*#************************* 4 hour Chicago 5-year ******************************
*#*****************************************************************************
*#-----------------|------------------------------------------------------------|
CHICAGO STORM           IUNITS=[2],   TD=[4](hrs), TPRAT=[0.333],   CSDT=[5](min),
                        ICASEcs=[2],
                        Enter ordinates of IDF curve below, at least seven points
                            TIME (min)     Intensity(mm/hr)
                               [5]           [130]
                               [10]          [90]
                               [15]          [77]
                               [30]          [50]
                               [60]          [33]
                               [120]         [21]
                               [360]         [8.8]
                               [720]         [4.7]
                               [1440]        [2.6]
                                  -1            -1
*#-----------------|------------------------------------------------------------|
*#------------------------------------- OUTLET: HIGH STREET --------------------|
*#-----------------|------------------------------------------------------------|
*#-----------------|------------------- EXTERNAL AREA #1 -----------------------|
*#-----------------|------------------------------------------------------------|
CALIB STANDHYD          ID=[1], NHYD=["EXT1"], DT=[1](min), AREA=[0.4](ha),
                        XIMP=[0.75], TIMP=[0.94], DWF=[0](cms), LOSS=[2],
                        SCS curve number CN=[84],
                        Pervious   surfaces: IAper=[5.0](mm), SLPP=[0.5](%),
                                             LGP=[40](m), MNP=[0.25], SCP=[0](min),
                        Impervious surfaces: IAimp=[2.0](mm), SLPI=[1.0](%),
                                             LGI=[120](m), MNI=[0.013], SCI=[0](min)
                        RAINFALL=[ ,   ,   ,   , ](mm/hr) ,   END=-1
*#-----------------|------------------------------------------------------------|
*#-----------------|------- SITE AREA CONTRIBUTING TO SWM FACILTY --------------|
*#-----------------|------------------------------------------------------------|
CALIB STANDHYD          ID=[2], NHYD=["AREA"], DT=[1](min), AREA=[15](ha),
                        XIMP=[0.68], TIMP=[0.85], DWF=[0](cms), LOSS=[2],
                        SCS curve number CN=[84],
                        Pervious   surfaces: IAper=[5](mm), SLPP=[0.5](%),
                                             LGP=[40](m), MNP=[0.25], SCP=[0](min),
                        Impervious surfaces: IAimp=[2](mm), SLPI=[0.5](%),
                                             LGI=[300](m), MNI=[0.013], SCI=[0](min)
                        RAINFALL=[ ,   ,   ,   , ](mm/hr) ,   END=-1
*#-----------------|------------------------------------------------------------|
ADD HYD                 IDsum=[3], NHYD=["ToPond"], IDs to add=[1+2]
*#-----------------|------------------------------------------------------------|
*#------------------------------- REGIONAL SWM FACILITY ------------------------|
*#-----------------|------------------------------------------------------------|
ROUTE RESERVOIR         IDout=[1],    NHYD=["StSWM"],   IDin=[3],
                        RDT=[1](min),
                             TABLE of ( OUTFLOW-STORAGE ) values
                                        (cms) - (ha-m)
                                      [   0.0 ,  0.0   ]
                                      [ 0.019 ,  0.280 ]
                                      [ 0.024 ,  0.450 ]
                                      [ 0.033 ,  0.935 ]
                                      [ 0.037 ,  1.252 ]
                                      [ 0.040 ,  1.473 ]
                                      [ 0.043 ,  1.755 ]
                                      [ 0.222 ,  1.846 ]
                                      [ 1.739 ,  2.046 ]
                                      [   -1  ,  -1    ]   (max twenty pts)
                             IDovf=[9], NHYDovf=["OVF"]
*#-----------------|------------------------------------------------------------|
*#------------------------------------- B2 ------------------------------------|
*#-----------------|------------------------------------------------------------|
DESIGN STANDHYD         ID=[2], NHYD=["B2"], DT=[1]min, AREA=[0.73](ha),
                        XIMP=[0.68], TIMP=[0.85], DWF=[0](cms), LOSS=[2], CN=[84],
                        SLOPE=[0.5](%), RAINFALL=[ , , , , ](mm/hr), END=-1
*#-----------------|------------------------------------------------------------|
ROUTE RESERVOIR         IDout=[3],    NHYD=["StorB2"],   IDin=[2],
                        RDT=[1](min),
                             TABLE of ( OUTFLOW-STORAGE ) values
                                        (cms) - (ha-m)
                                      [    0.0 ,  0.0   ]
                                      [  0.020,  0.042 ]
                                      [   -1   ,  -1    ]   (max twenty pts)
                             IDovf=[9], NHYDovf=["OVF"]
*#-----------------|------------------------------------------------------------|
ADD HYD                 IDsum=[4], NHYD=["SumB2"], IDs to add=[1+3]
*#-----------------|------------------------------------------------------------|
*#-------------------------------------- C ------------------------------------|
*#-----------------|------------------------------------------------------------|
DESIGN STANDHYD         ID=[3], NHYD=["C"], DT=[1]min, AREA=[0.68](ha),
                        XIMP=[0.68], TIMP=[0.85], DWF=[0](cms), LOSS=[2], CN=[84],
                        SLOPE=[1.0](%), RAINFALL=[ , , , , ](mm/hr), END=-1
*%-----------------|------------------------------------------------------------|
ROUTE RESERVOIR         IDout=[2],    NHYD=["StC"],   IDin=[3],
                        RDT=[1](min),
                             TABLE of ( OUTFLOW-STORAGE ) values
                                        (cms) - (ha-m)
                                      [    0.0 ,  0.0   ]
                                      [  0.020 ,  0.038 ]
                                      [   -1   ,  -1    ]   (max twenty pts)
```

```
                         IDovf=[9], NHYDovf=["OVF"]
*#----------------|----------------------------------------------------|
ADD HYD           IDsum=[1], NHYD=["SumC"], IDs to add=[2+4]
*#----------------|----------------------------------------------------|
*#------------------------------------- R4 ----------------------------|
*#----------------|----------------------------------------------------|
DESIGN STANDHYD   ID=[2], NHYD=["R4"], DT=[1]min, AREA=[0.48](ha),
                  XIMP=[0.56], TIMP=[0.70], DWF=[0](cms), LOSS=[2], CN=[84],
                  SLOPE=[0.5](%), RAINFALL=[ , , , , ](mm/hr), END=-1
*#----------------|----------------------------------------------------|
ROUTE RESERVOIR   IDout=[4],   NHYD=["StR4"],  IDin=[2],
                  RDT=[1](min),
                         TABLE of ( OUTFLOW-STORAGE ) values
                                  (cms) - (ha-m)
                                [  0.0 ,  0.0  ]
                                [ 0.035,  0.020]
                                [  -1  ,  -1   ]  (max twenty pts)
                         IDovf=[9], NHYDovf=["OVF"]
*#----------------|----------------------------------------------------|
*#----------------|---- CONTROLLED DISCHARGE TO HIGH STREET FROM SITE --|
*#----------------|----------------------------------------------------|
ADD HYD           IDsum=[3], NHYD=["HighSt"], IDs to add=[1+4]
*#----------------|----------------------------------------------------|
*#------------------------------------ B1 -----------------------------|
*#----------------|----------------------------------------------------|
CALIB NASHYD      ID=[2], NHYD=["B1"], DT=[1]min, AREA=[0.33](ha),
                  DWF=[0](cms),  CN/C=[84], IA=[5.0](mm),
                  N=[3], TP=[0.17]hrs,
                  RAINFALL=[ ,   ,   ,   , ](mm/hr),  END=-1
*#----------------|----------------------------------------------------|
*#----------------|---- TOTAL DISCHARGE TO HIGH STREET FROM SITE ------|
*#----------------|----------------------------------------------------|
ADD HYD           IDsum=[4], NHYD=["SumB1"], IDs to add=[2+3]
*#----------------|----------------------------------------------------|
*#----------------|--------------- EXTERNAL AREA #2 -------------------|
*#----------------|----------------------------------------------------|
CALIB NASHYD      ID=[1], NHYD=["EXT2"], DT=[1]min, AREA=[1.9](ha),
                  DWF=[0](cms),  CN/C=[84], IA=[5.0](mm),
                  N=[3], TP=[0.17]hrs,
                  RAINFALL=[ ,   ,   ,   , ](mm/hr),  END=-1
*#----------------|----------------------------------------------------|
*#----------------|---------------GOODALL SITE-------------------------|
*#----------------|----------------------------------------------------|
CALIB STANDHYD    ID=[2], NHYD=["Goodall"], DT=[1](min), AREA=[2.91](ha),
                  XIMP=[0.56], TIMP=[0.70], DWF=[0](cms), LOSS=[2],
                  SCS curve number CN=[84],
                  Pervious   surfaces: IAper=[5.0](mm), SLPP=[0.5](%),
                                       LGP=[40](m), MNP=[0.25], SCP=[0](min),
                  Impervious surfaces: IAimp=[2.0](mm), SLPI=[0.5](%),
                                       LGI=[240](m), MNI=[0.013], SCI=[0](min)
                  RAINFALL=[ ,   ,   ,   , ](mm/hr) ,  END=-1
*#----------------|----------------------------------------------------|
ADD HYD           IDsum=[5], NHYD=["GdSum"], IDs to add=[1+2]
*#----------------|----------------------------------------------------|
*#----------------|--------- TOTAL DISCHARGE TO HIGH STREET -----------|
*#----------------|----------------------------------------------------|
ADD HYD           IDsum=[3], NHYD=["HighTot"], IDs to add=[4+5]
*#----------------|----------------------------------------------------|
*#------------------------------ OUTLET: CAMBRIDGE STREET --------------|
*#----------------|----------------------------------------------------|
*#------------------------------------- R5 ----------------------------|
*#----------------|----------------------------------------------------|
DESIGN STANDHYD   ID=[6], NHYD=["R5"], DT=[1]min, AREA=[0.16](ha),
                  XIMP=[0.56], TIMP=[0.70], DWF=[0](cms), LOSS=[2], CN=[84],
                  SLOPE=[0.5](%), RAINFALL=[ , , , , ](mm/hr), END=-1
*#----------------|----------------------------------------------------|
*#------------------------------ OUTLET: HOME DEPOT --------------------|
*#------------------------------------ SWM POND ------------------------|
*#---------------------------------- REVISED 201 -----------------------|
*#----------------|----------------------------------------------------|
CALIB STANDHYD    ID=[7], NHYD=["Rev201"], DT=[1](min), AREA=[2.50](ha),
                  XIMP=[0.9], TIMP=[0.9], DWF=[0](cms), LOSS=[2],
                  SCS curve number CN=[84],
                  Pervious   surfaces: IAper=[5.0](mm), SLPP=[2](%),
                                       LGP=[40](m), MNP=[0.25], SCP=[0](min),
                  Impervious surfaces: IAimp=[2](mm), SLPI=[1](%),
                                       LGI=[130](m), MNI=[0.013], SCI=[0](min)
                  RAINFALL=[ ,   ,   ,   , ](mm/hr) ,  END=-1
*#----------------|----------------------------------------------------|
*#*********************************************************************
*#************************** 4 hour Chicago 25-year ********************
*#*********************************************************************
*#----------------|----------------------------------------------------|
CHICAGO STORM     IUNITS=[2],  TD=[4](hrs), TPRAT=[0.333],  CSDT=[5](min),
                  ICASEcs=[2],
                  Enter ordinates of IDF curve below, at least seven points
                      TIME (min)     Intensity(mm/hr)
                         [5]           [180]
                         [10]          [120]
                         [15]          [105]
                         [30]          [67]
                         [60]          [46]
                         [120]         [28]
                         [360]         [13]
                         [720]         [6.5]
                         [1440]        [3.6]
                           -1             -1
*#----------------|----------------------------------------------------|
*#---------------------------------- OUTLET: HIGH STREET --------------|
*#----------------|----------------------------------------------------|
*#----------------|--------------- EXTERNAL AREA #1 -------------------|
*#----------------|----------------------------------------------------|
CALIB STANDHYD    ID=[1], NHYD=["EXT1"], DT=[1](min), AREA=[0.6](ha),
                  XIMP=[0.75], TIMP=[0.94], DWF=[0](cms), LOSS=[2],
                  SCS curve number CN=[84],
                  Pervious   surfaces: IAper=[5.0](mm), SLPP=[0.5](%),
                                       LGP=[40](m), MNP=[0.25], SCP=[0](min),
                  Impervious surfaces: IAimp=[2.0](mm), SLPI=[1.0](%),
                                       LGI=[120](m), MNI=[0.013], SCI=[0](min)
                  RAINFALL=[ ,   ,   ,   , ](mm/hr) ,  END=-1
*#----------------|----------------------------------------------------|
*#----------------|------- SITE AREA CONTRIBUTING TO SWM FACILTY ------|
*#----------------|----------------------------------------------------|
CALIB STANDHYD    ID=[2], NHYD=["AREA"], DT=[1](min), AREA=[15](ha),
                  XIMP=[0.68], TIMP=[0.85], DWF=[0](cms), LOSS=[2],
                  SCS curve number CN=[84],
                  Pervious   surfaces: IAper=[5](mm), SLPP=[0.5](%),
                                       LGP=[40](m), MNP=[0.25], SCP=[0](min),
                  Impervious surfaces: IAimp=[2](mm), SLPI=[0.5](%),
                                       LGI=[300](m), MNI=[0.013], SCI=[0](min)
                  RAINFALL=[ ,   ,   ,   , ](mm/hr) ,  END=-1
*#----------------|----------------------------------------------------|
ADD HYD           IDsum=[3], NHYD=["ToPond"], IDs to add=[1+2]
*#----------------|----------------------------------------------------|
*#------------------------------- REGIONAL SWM FACILITY ----------------|
*#----------------|----------------------------------------------------|
ROUTE RESERVOIR   IDout=[1],   NHYD=["StSWM"],  IDin=[3],
                  RDT=[1](min),
                         TABLE of ( OUTFLOW-STORAGE ) values
                                  (cms) - (ha-m)
                                [  0.0 ,  0.0   ]
                                [ 0.019 , 0.280 ]
                                [ 0.024 , 0.450 ]
                                [ 0.033 , 0.935 ]
                                [ 0.037 , 1.252 ]
                                [ 0.040 , 1.473 ]
                                [ 0.043 , 1.755 ]
                                [ 0.222 , 1.846 ]
                                [ 1.739 , 2.046 ]
                                [  -1   ,  -1   ]  (max twenty pts)
                         IDovf=[9], NHYDovf=["OVF"]
*#----------------|----------------------------------------------------|
*#------------------------------------- B2 ----------------------------|
*#----------------|----------------------------------------------------|
DESIGN STANDHYD   ID=[2], NHYD=["B2"], DT=[1]min, AREA=[0.73](ha),
                  XIMP=[0.68], TIMP=[0.85], DWF=[0](cms), LOSS=[2], CN=[84],
                  SLOPE=[0.5](%), RAINFALL=[ , , , , ](mm/hr), END=-1
*#----------------|----------------------------------------------------|
ROUTE RESERVOIR   IDout=[3],   NHYD=["StorB2"],  IDin=[2],
                  RDT=[1](min),
                         TABLE of ( OUTFLOW-STORAGE ) values
                                  (cms) - (ha-m)
                                [   0.0 ,   0.0  ]
                                [ 0.020,   0.042 ]
                                [  -1   ,  -1    ]  (max twenty pts)
                         IDovf=[9], NHYDovf=["OVF"]
*#----------------|----------------------------------------------------|
ADD HYD           IDsum=[4], NHYD=["SumB2"], IDs to add=[1+3]
*#----------------|----------------------------------------------------|
*#------------------------------------- C -----------------------------|
*#----------------|----------------------------------------------------|
DESIGN STANDHYD   ID=[3], NHYD=["C"], DT=[1]min, AREA=[0.68](ha),
                  XIMP=[0.68], TIMP=[0.85], DWF=[0](cms), LOSS=[2], CN=[84],
                  SLOPE=[1.0](%), RAINFALL=[ , , , , ](mm/hr), END=-1
*%----------------|----------------------------------------------------|
ROUTE RESERVOIR   IDout=[2],   NHYD=["StC"],  IDin=[3],
                  RDT=[1](min),
                         TABLE of ( OUTFLOW-STORAGE ) values
                                  (cms) - (ha-m)
                                [   0.0 ,   0.0  ]
                                [ 0.020 ,  0.038 ]
                                [  -1   ,  -1    ]  (max twenty pts)
                         IDovf=[9], NHYDovf=["OVF"]
*#----------------|----------------------------------------------------|
ADD HYD           IDsum=[1], NHYD=["SumC"], IDs to add=[2+4]
*#----------------|----------------------------------------------------|
*#------------------------------------- R4 ----------------------------|
*#----------------|----------------------------------------------------|
DESIGN STANDHYD   ID=[2], NHYD=["R4"], DT=[1]min, AREA=[0.48](ha),
                  XIMP=[0.56], TIMP=[0.70], DWF=[0](cms), LOSS=[2], CN=[84],
                  SLOPE=[0.5](%), RAINFALL=[ , , , , ](mm/hr), END=-1
*#----------------|----------------------------------------------------|
ROUTE RESERVOIR   IDout=[4],   NHYD=["StR4"],  IDin=[2],
                  RDT=[1](min),
                         TABLE of ( OUTFLOW-STORAGE ) values
                                  (cms) - (ha-m)
                                [  0.0 ,  0.0  ]
                                [ 0.035,  0.020]
                                [  -1  ,  -1   ]  (max twenty pts)
                         IDovf=[9], NHYDovf=["OVF"]
*#----------------|----------------------------------------------------|
*#----------------|---- CONTROLLED DISCHARGE TO HIGH STREET FROM SITE --|
*#----------------|----------------------------------------------------|
ADD HYD           IDsum=[3], NHYD=["HighSt"], IDs to add=[1+4]
*#----------------|----------------------------------------------------|
*#------------------------------------ B1 -----------------------------|
*#----------------|----------------------------------------------------|
CALIB NASHYD      ID=[2], NHYD=["B1"], DT=[1]min, AREA=[0.33](ha),
                  DWF=[0](cms),  CN/C=[84], IA=[5.0](mm),
                  N=[3], TP=[0.17]hrs,
                  RAINFALL=[ ,   ,   ,   , ](mm/hr),  END=-1
*#----------------|----------------------------------------------------|
*#----------------|---- TOTAL DISCHARGE TO HIGH STREET FROM SITE ------|
*#----------------|----------------------------------------------------|
ADD HYD           IDsum=[4], NHYD=["SumB1"], IDs to add=[2+3]
*#----------------|----------------------------------------------------|
*#----------------|--------------- EXTERNAL AREA #2 -------------------|
*#----------------|----------------------------------------------------|
CALIB NASHYD      ID=[1], NHYD=["EXT2"], DT=[1]min, AREA=[1.9](ha),
                  DWF=[0](cms),  CN/C=[84], IA=[5.0](mm),
                  N=[3], TP=[0.17]hrs,
                  RAINFALL=[ ,   ,   ,   , ](mm/hr),  END=-1
*#----------------|----------------------------------------------------|
*#----------------|---------------GOODALL SITE-------------------------|
*#----------------|----------------------------------------------------|
CALIB STANDHYD    ID=[2], NHYD=["Goodall"], DT=[1](min), AREA=[2.91](ha),
                  XIMP=[0.56], TIMP=[0.70], DWF=[0](cms), LOSS=[2],
                  SCS curve number CN=[84],
                  Pervious   surfaces: IAper=[5.0](mm), SLPP=[0.5](%),
                                       LGP=[40](m), MNP=[0.25], SCP=[0](min),
                  Impervious surfaces: IAimp=[2.0](mm), SLPI=[0.5](%),
                                       LGI=[240](m), MNI=[0.013], SCI=[0](min)
                  RAINFALL=[ ,   ,   ,   , ](mm/hr) ,  END=-1
*#----------------|----------------------------------------------------|
ADD HYD           IDsum=[5], NHYD=["GdSum"], IDs to add=[1+2]
*#----------------|----------------------------------------------------|
*#----------------|--------- TOTAL DISCHARGE TO HIGH STREET -----------|
*#----------------|----------------------------------------------------|
ADD HYD           IDsum=[3], NHYD=["HighTot"], IDs to add=[4+5]
*#----------------|----------------------------------------------------|
*#------------------------------ OUTLET: CAMBRIDGE STREET --------------|
*#----------------|----------------------------------------------------|
*#------------------------------------- R5 ----------------------------|
*#----------------|----------------------------------------------------|
DESIGN STANDHYD   ID=[6], NHYD=["R5"], DT=[1]min, AREA=[0.16](ha),
                  XIMP=[0.56], TIMP=[0.70], DWF=[0](cms), LOSS=[2], CN=[84],
                  SLOPE=[0.5](%), RAINFALL=[ , , , , ](mm/hr), END=-1
*#----------------|----------------------------------------------------|
*#------------------------------ OUTLET: HOME DEPOT --------------------|
*#------------------------------------ SWM POND ------------------------|
*#---------------------------------- REVISED 201 -----------------------|
*#----------------|----------------------------------------------------|
CALIB STANDHYD    ID=[7], NHYD=["Rev201"], DT=[1](min), AREA=[2.50](ha),
                  XIMP=[0.9], TIMP=[0.9], DWF=[0](cms), LOSS=[2],
                  SCS curve number CN=[84],
                  Pervious   surfaces: IAper=[5.0](mm), SLPP=[2](%),
                                       LGP=[40](m), MNP=[0.25], SCP=[0](min),
                  Impervious surfaces: IAimp=[2](mm), SLPI=[1](%),
                                       LGI=[130](m), MNI=[0.013], SCI=[0](min)
                  RAINFALL=[ ,   ,   ,   , ](mm/hr) ,  END=-1
*#----------------|----------------------------------------------------|
*#*********************************************************************
*#------------------------ 4 hour Chicago 100-year ---------------------|
*#*********************************************************************
*#----------------|----------------------------------------------------|
CHICAGO STORM     IUNITS=[2],  TD=[4](hrs), TPRAT=[0.333],  CSDT=[5](min),
                  ICASEcs=[2],
                  Enter ordinates of IDF curve below, at least seven points
                      TIME (min)     Intensity(mm/hr)
                         [5]           [215]
                         [10]          [145]
                         [15]          [125]
                         [30]          [82]
                         [60]          [56]
                         [120]         [34]
                         [360]         [16]
                         [720]         [8.0]
                         [1440]        [4.5]
                           -1             -1
*#----------------|----------------------------------------------------|
```

```
*#------------------------------------ OUTLET: HIGH STREET ----------------------------|
*#-----------------|-------------------------------------------------------------------|
*#-----------------|---------------- EXTERNAL AREA #1 ---------------------------------|
*#-----------------|-------------------------------------------------------------------|
CALIB STANDHYD      ID=[1], NHYD=["EXT1"], DT=[1](min), AREA=[0.6](ha),
                    XIMP=[0.75], TIMP=[0.94], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[84],
                    Pervious   surfaces: IAper=[5.0](mm), SLPP=[0.5](%),
                                         LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2.0](mm), SLPI=[1.0](%),
                                         LGI=[120](m), MNI=[0.013], SCI=[0](min)
                    RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|-------------------------------------------------------------------|
*#-----------------|------- SITE AREA CONTRIBUTING TO SWM FACILTY ---------------------|
*#-----------------|-------------------------------------------------------------------|
CALIB STANDHYD      ID=[2], NHYD=["AREA"], DT=[1](min), AREA=[15](ha),
                    XIMP=[0.68], TIMP=[0.85], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[84],
                    Pervious   surfaces: IAper=[5](mm), SLPP=[0.5](%),
                                         LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2](mm), SLPI=[0.5](%),
                                         LGI=[300](m), MNI=[0.013], SCI=[0](min)
                    RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|-------------------------------------------------------------------|
ADD HYD             IDsum=[3], NHYD=["ToPond"], IDs to add=[1+2]
*#-----------------|-------------------------------------------------------------------|
*#---------------------------------- REGIONAL SWM FACILITY ----------------------------|
*#-----------------|-------------------------------------------------------------------|
ROUTE RESERVOIR     IDout=[1],   NHYD=["StSWM"],  IDin=[3],
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                      (cms) - (ha-m)
                                    [  0.0 ,  0.0  ]
                                    [ 0.019 , 0.280 ]
                                    [ 0.024 , 0.450 ]
                                    [ 0.033 , 0.935 ]
                                    [ 0.037 , 1.252 ]
                                    [ 0.040 , 1.473 ]
                                    [ 0.043 , 1.755 ]
                                    [ 0.222 , 1.846 ]
                                    [ 1.739 , 2.046 ]
                                    [  -1  ,  -1   ]  (max twenty pts)
                          IDovf=[9], NHYDovf=["OVF"]
*#-----------------|-------------------------------------------------------------------|
*#------------------------------------------ B2 ---------------------------------------|
*#-----------------|-------------------------------------------------------------------|
DESIGN STANDHYD     ID=[2], NHYD=["B2"], DT=[1]min, AREA=[0.73](ha),
                    XIMP=[0.68], TIMP=[0.85], DWF=[0](cms), LOSS=[2], CN=[84],
                    SLOPE=[0.5](%), RAINFALL=[ , , , , ](mm/hr), END=-1
*#-----------------|-------------------------------------------------------------------|
ROUTE RESERVOIR     IDout=[3],   NHYD=["StorB2"],  IDin=[2],
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                      (cms) - (ha-m)
                                    [   0.0 ,  0.0   ]
                                    [  0.020,  0.042 ]
                                    [   -1  ,  -1    ]  (max twenty pts)
                          IDovf=[9], NHYDovf=["OVF"]
*#-----------------|-------------------------------------------------------------------|
ADD HYD             IDsum=[4], NHYD=["SumB2"], IDs to add=[1+3]
*#-----------------|-------------------------------------------------------------------|
*#------------------------------------------ C ----------------------------------------|
*#-----------------|-------------------------------------------------------------------|
DESIGN STANDHYD     ID=[3], NHYD=["C"], DT=[1]min, AREA=[0.68](ha),
                    XIMP=[0.68], TIMP=[0.85], DWF=[0](cms), LOSS=[2], CN=[84],
                    SLOPE=[1.0](%), RAINFALL=[ , , , , ](mm/hr), END=-1
*%-----------------|-------------------------------------------------------------------|
ROUTE RESERVOIR     IDout=[2],   NHYD=["StC"],  IDin=[3],
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                      (cms) - (ha-m)
                                    [   0.0 ,  0.0   ]
                                    [  0.020 , 0.038 ]
                                    [   -1  ,  -1    ]  (max twenty pts)
                          IDovf=[9], NHYDovf=["OVF"]
*#-----------------|-------------------------------------------------------------------|
ADD HYD             IDsum=[1], NHYD=["SumC"], IDs to add=[2+4]
*#-----------------|-------------------------------------------------------------------|
*#------------------------------------------ R4 ---------------------------------------|
*#-----------------|-------------------------------------------------------------------|
DESIGN STANDHYD     ID=[2], NHYD=["R4"], DT=[1]min, AREA=[0.48](ha),
                    XIMP=[0.56], TIMP=[0.70], DWF=[0](cms), LOSS=[2], CN=[84],
                    SLOPE=[0.5](%), RAINFALL=[ , , , , ](mm/hr), END=-1
*#-----------------|-------------------------------------------------------------------|
ROUTE RESERVOIR     IDout=[4],   NHYD=["StR4"],  IDin=[2],
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                      (cms) - (ha-m)
                                    [   0.0 ,  0.0  ]
                                    [  0.035,  0.020]
                                    [   -1  ,  -1   ]  (max twenty pts)
                          IDovf=[9], NHYDovf=["OVF"]
*#-----------------|-------------------------------------------------------------------|
*#-----------------|---- CONTROLLED DISCHARGE TO HIGH STREET FROM SITE ----------------|
*#-----------------|-------------------------------------------------------------------|
ADD HYD             IDsum=[3], NHYD=["HighSt"], IDs to add=[1+4]
*#-----------------|-------------------------------------------------------------------|
*#------------------------------------------ B1 ---------------------------------------|
*#-----------------|-------------------------------------------------------------------|
CALIB NASHYD        ID=[2], NHYD=["B1"], DT=[1]min, AREA=[0.33](ha),
                    DWF=[0](cms),  CN/C=[84], IA=[5.0](mm),
                    N=[3], TP=[0.17]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------------|
*#-----------------|---- TOTAL DISCHARGE TO HIGH STREET FROM SITE ---------------------|
*#-----------------|-------------------------------------------------------------------|
ADD HYD             IDsum=[4], NHYD=["SumB1"], IDs to add=[2+3]
*#-----------------|-------------------------------------------------------------------|
*#-----------------|---------------- EXTERNAL AREA #2 ---------------------------------|
*#-----------------|-------------------------------------------------------------------|
CALIB NASHYD        ID=[1], NHYD=["EXT2"], DT=[1]min, AREA=[1.9](ha),
                    DWF=[0](cms),  CN/C=[84], IA=[5.0](mm),
                    N=[3], TP=[0.17]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------------|
*#-----------------|--------------GOODALL SITE ----------------------------------------|
*#-----------------|-------------------------------------------------------------------|
CALIB STANDHYD      ID=[2], NHYD=["Goodall"], DT=[1](min), AREA=[2.91](ha),
                    XIMP=[0.56], TIMP=[0.70], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[84],
                    Pervious   surfaces: IAper=[5.0](mm), SLPP=[0.5](%),
                                         LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2.0](mm), SLPI=[0.5](%),
                                         LGI=[240](m), MNI=[0.013], SCI=[0](min)
                    RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|-------------------------------------------------------------------|
ADD HYD             IDsum=[5], NHYD=["GdSum"], IDs to add=[1+2]
*#-----------------|-------------------------------------------------------------------|
*#-----------------|-------- TOTAL DISCHARGE TO HIGH STREET ---------------------------|
*#-----------------|-------------------------------------------------------------------|
ADD HYD             IDsum=[3], NHYD=["HighTot"], IDs to add=[4+5]
*#-----------------|-------------------------------------------------------------------|
*#------------------------------------ OUTLET: CAMBRIDGE STREET -----------------------|
*#-----------------|-------------------------------------------------------------------|
*#-----------------|------------------------ R5 --------------------------------------|
*#-----------------|-------------------------------------------------------------------|
DESIGN STANDHYD     ID=[6], NHYD=["R5"], DT=[1]min, AREA=[0.16](ha),
                    XIMP=[0.56], TIMP=[0.70], DWF=[0](cms), LOSS=[2], CN=[84],
                    SLOPE=[0.5](%), RAINFALL=[ , , , , ](mm/hr), END=-1
*#-----------------|-------------------------------------------------------------------|
*#---------------------------------- OUTLET: HOME DEPOT -------------------------------|
*#------------------------------------- SWM POND --------------------------------------|
*#------------------------------------ REVISED 201 ------------------------------------|
*#-----------------|-------------------------------------------------------------------|
CALIB STANDHYD      ID=[7], NHYD=["Rev201"], DT=[1](min), AREA=[2.50](ha),
                    XIMP=[0.9], TIMP=[0.9], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[84],
                    Pervious   surfaces: IAper=[5.0](mm), SLPP=[2](%),
                                         LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2](mm), SLPI=[1](%),
                                         LGI=[130](m), MNI=[0.013], SCI=[0](min)
                    RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|-------------------------------------------------------------------|
*#*************************************************************************************
*#------------------------------------ REGIONAL EVENT ---------------------------------|
*#*************************************************************************************
*#-----------------|-------------------------------------------------------------------|
READ STORM          STORM_FILENAME=["tim.STM"]
*#-----------------|-------------------------------------------------------------------|
*#------------------------------------ OUTLET: HIGH STREET -----------------------------|
*#-----------------|-------------------------------------------------------------------|
*#-----------------|---------------- EXTERNAL AREA #1 ---------------------------------|
*#-----------------|-------------------------------------------------------------------|
CALIB STANDHYD      ID=[1], NHYD=["EXT1"], DT=[1](min), AREA=[0.6](ha),
                    XIMP=[0.75], TIMP=[0.94], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[84],
                    Pervious   surfaces: IAper=[5.0](mm), SLPP=[0.5](%),
                                         LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2.0](mm), SLPI=[1.0](%),
                                         LGI=[120](m), MNI=[0.013], SCI=[0](min)
                    RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|-------------------------------------------------------------------|
*#-----------------|------- SITE AREA CONTRIBUTING TO SWM FACILTY ---------------------|
*#-----------------|-------------------------------------------------------------------|
CALIB STANDHYD      ID=[2], NHYD=["AREA"], DT=[1](min), AREA=[15](ha),
                    XIMP=[0.68], TIMP=[0.85], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[84],
                    Pervious   surfaces: IAper=[5](mm), SLPP=[0.5](%),
                                         LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2](mm), SLPI=[0.5](%),
                                         LGI=[300](m), MNI=[0.013], SCI=[0](min)
                    RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|-------------------------------------------------------------------|
ADD HYD             IDsum=[3], NHYD=["ToPond"], IDs to add=[1+2]
*#-----------------|-------------------------------------------------------------------|
*#---------------------------------- REGIONAL SWM FACILITY ----------------------------|
*#-----------------|-------------------------------------------------------------------|
ROUTE RESERVOIR     IDout=[1],   NHYD=["StSWM"],  IDin=[3],
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                      (cms) - (ha-m)
                                    [  0.0 ,  0.0  ]
                                    [ 0.019 , 0.280 ]
                                    [ 0.024 , 0.450 ]
                                    [ 0.033 , 0.935 ]
                                    [ 0.037 , 1.252 ]
                                    [ 0.040 , 1.473 ]
                                    [ 0.043 , 1.755 ]
                                    [ 0.222 , 1.846 ]
                                    [ 1.739 , 2.046 ]
                                    [  -1  ,  -1   ]  (max twenty pts)
                          IDovf=[9], NHYDovf=["OVF"]
*#-----------------|-------------------------------------------------------------------|
*#------------------------------------------ B2 ---------------------------------------|
*#-----------------|-------------------------------------------------------------------|
DESIGN STANDHYD     ID=[2], NHYD=["B2"], DT=[1]min, AREA=[0.73](ha),
                    XIMP=[0.68], TIMP=[0.85], DWF=[0](cms), LOSS=[2], CN=[84],
                    SLOPE=[0.5](%), RAINFALL=[ , , , , ](mm/hr), END=-1
*#-----------------|-------------------------------------------------------------------|
ROUTE RESERVOIR     IDout=[3],   NHYD=["StorB2"],  IDin=[2],
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                      (cms) - (ha-m)
                                    [   0.0 ,  0.0   ]
                                    [  0.020,  0.042 ]
                                    [   -1  ,  -1    ]  (max twenty pts)
                          IDovf=[9], NHYDovf=["OVF"]
*#-----------------|-------------------------------------------------------------------|
ADD HYD             IDsum=[4], NHYD=["SumB2"], IDs to add=[1+3]
*#-----------------|-------------------------------------------------------------------|
*#------------------------------------------ C ----------------------------------------|
*#-----------------|-------------------------------------------------------------------|
DESIGN STANDHYD     ID=[3], NHYD=["C"], DT=[1]min, AREA=[0.68](ha),
                    XIMP=[0.68], TIMP=[0.85], DWF=[0](cms), LOSS=[2], CN=[84],
                    SLOPE=[1.0](%), RAINFALL=[ , , , , ](mm/hr), END=-1
*%-----------------|-------------------------------------------------------------------|
ROUTE RESERVOIR     IDout=[2],   NHYD=["StC"],  IDin=[3],
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                      (cms) - (ha-m)
                                    [   0.0 ,  0.0   ]
                                    [  0.020 , 0.038 ]
                                    [   -1  ,  -1    ]  (max twenty pts)
                          IDovf=[9], NHYDovf=["OVF"]
*#-----------------|-------------------------------------------------------------------|
ADD HYD             IDsum=[1], NHYD=["SumC"], IDs to add=[2+4]
*#-----------------|-------------------------------------------------------------------|
*#------------------------------------------ R4 ---------------------------------------|
*#-----------------|-------------------------------------------------------------------|
DESIGN STANDHYD     ID=[2], NHYD=["R4"], DT=[1]min, AREA=[0.48](ha),
                    XIMP=[0.56], TIMP=[0.70], DWF=[0](cms), LOSS=[2], CN=[84],
                    SLOPE=[0.5](%), RAINFALL=[ , , , , ](mm/hr), END=-1
*#-----------------|-------------------------------------------------------------------|
ROUTE RESERVOIR     IDout=[4],   NHYD=["StR4"],  IDin=[2],
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                      (cms) - (ha-m)
                                    [   0.0 ,  0.0  ]
                                    [  0.035,  0.020]
                                    [   -1  ,  -1   ]  (max twenty pts)
                          IDovf=[9], NHYDovf=["OVF"]
*#-----------------|-------------------------------------------------------------------|
*#-----------------|---- CONTROLLED DISCHARGE TO HIGH STREET FROM SITE ----------------|
*#-----------------|-------------------------------------------------------------------|
ADD HYD             IDsum=[3], NHYD=["HighSt"], IDs to add=[1+4]
*#-----------------|-------------------------------------------------------------------|
*#------------------------------------------ B1 ---------------------------------------|
*#-----------------|-------------------------------------------------------------------|
CALIB NASHYD        ID=[2], NHYD=["B1"], DT=[1]min, AREA=[0.33](ha),
                    DWF=[0](cms),  CN/C=[84], IA=[5.0](mm),
                    N=[3], TP=[0.17]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------------|
*#-----------------|---- TOTAL DISCHARGE TO HIGH STREET FROM SITE ---------------------|
*#-----------------|-------------------------------------------------------------------|
ADD HYD             IDsum=[4], NHYD=["SumB1"], IDs to add=[2+3]
*#-----------------|-------------------------------------------------------------------|
*#-----------------|---------------- EXTERNAL AREA #2 ---------------------------------|
*#-----------------|-------------------------------------------------------------------|
CALIB NASHYD        ID=[1], NHYD=["EXT2"], DT=[1]min, AREA=[1.9](ha),
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00811>                      DWF=[0](cms),  CN/C=[84], IA=[5.0](mm),
00812>                      N=[3], TP=[0.17]hrs,
00813>                      RAINFALL=[ , , , , ](mm/hr),  END=-1
00814> *#-----------------|-------------------------------------------------------|
00815> *#-----------------|----------GOODALL SITE--------------------------------|
00816> *#-----------------|-------------------------------------------------------|
00817> CALIB STANDHYD      ID=[2], NHYD=["Goodall"], DT=[1](min), AREA=[2.91](ha),
00818>                      XIMP=[0.56], TIMP=[0.70], DWF=[0](cms), LOSS=[2],
00819>                      SCS curve number CN=[84],
00820>                      Pervious   surfaces: IAper=[5.0](mm), SLPP=[0.5](%),
00821>                                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
00822>                      Impervious surfaces: IAimp=[2.0](mm), SLPI=[0.5](%),
00823>                                           LGI=[240](m), MNI=[0.013], SCI=[0](min)
00824>                      RAINFALL=[ , , , , ](mm/hr) ,  END=-1
00825> *#-----------------|-------------------------------------------------------|
00826> ADD HYD             IDsum=[5], NHYD=["GdSum"], IDs to add=[1+2]
00827> *#-----------------|-------------------------------------------------------|
00828> *#-----------------|--------- TOTAL DISCHARGE TO HIGH STREET ---------------|
00829> *#-----------------|-------------------------------------------------------|
00830> ADD HYD             IDsum=[3], NHYD=["HighTot"], IDs to add=[4+5]
00831> *#-----------------|-------------------------------------------------------|
00832> *#-------------------------- OUTLET: CAMBRIDGE STREET ----------------------|
00833> *#-----------------|-------------------------------------------------------|
00834> *#-------------------------------- R5 -------------------------------------|
00835> *#-----------------|-------------------------------------------------------|
00836> DESIGN STANDHYD     ID=[6], NHYD=["R5"], DT=[1]min, AREA=(0.16](ha),
00837>                      XIMP=[0.56], TIMP=[0.70], DWF=[0](cms), LOSS=[2], CN=[84],
00838>                      SLOPE=[0.5](%), RAINFALL=[ , , , , ](mm/hr), END=-1
00839> *#-----------------|-------------------------------------------------------|
00840> *#-------------------------- OUTLET: HOME DEPOT ---------------------------|
00841> *#-----------------|-------------  SWM POND  -----------------------------|
00842> *#-----------------|------------- REVISED 201 ----------------------------|
00843> *#-----------------|-------------------------------------------------------|
00844> CALIB STANDHYD      ID=[7], NHYD=["Rev201"], DT=[1](min), AREA=[2.50](ha),
00845>                      XIMP=[0.9], TIMP=[0.9], DWF=[0](cms), LOSS=[2],
00846>                      SCS curve number CN=[84],
00847>                      Pervious   surfaces: IAper=[5.0](mm), SLPP=[2](%),
00848>                                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
00849>                      Impervious surfaces: IAimp=[2](mm), SLPI=[1](%),
00850>                                           LGI=[130](m), MNI=[0.013], SCI=[0](min)
00851>                      RAINFALL=[ , , , , ](mm/hr) ,  END=-1
00852> *#-----------------|-------------------------------------------------------|
00853> FINISH
00854>
00855>
00856>
```

```
 ************************************************************************

   SSSSS  W   W  M   M  H   H  Y   Y  M   M   OOO        999    999    =========
   S      W W W  MM MM  H   H   Y Y   MM MM  O   O      9   9  9   9
   SSSSS  W W W  M M M  HHHHH    Y    M M M  O   O  ##  9   9  9   9   Ver  4.05
       S   W W   M   M  H   H    Y    M   M  O   O       9999   9999   Sept 2011
   SSSSS   W W   M   M  H   H    Y    M   M   OOO           9      9   =========
                                                        9   9  9   9   # 3737016
        StormWater Management HYdrologic Model           999    999    =========

 *************************************************************************
 ***************************** SWMHYMO Ver/4.05 ***************************
 *********  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   :    10       *********
 *********               Max. number of rainfall points: 105408       *********
 *********               Max. number of flow points    : 105408       *********
 *************************************************************************

 ***** DESCRIPTION SUMMARY TABLE HEADERS (units depend on METOUT in START) *****
 *****-----------------------------------------------------------------*****
 *****    ID:  Hydrograph IDentification numbers, (1-10).                *****
 *****  NHYD:  Hydrograph reference numbers, (6 digits or characters).   *****
 *****  AREA:  Drainage area associated with hydrograph, (ac.) or (ha.). *****
 ***** QPEAK:  Peak flow of simulated hydrograph, (ft^3/s) or (m^3/s).   *****
 ***** TpeakDate_hh:mm is the date and time of the peak flow.            *****
 *****  R.V.:  Runoff Volume of simulated hydrograph, (in) or (mm).      *****
 *****  R.C.:  Runoff Coefficient of simulated hydrograph, (ratio).      *****
 *****     *:  see WARNING or NOTE message printed at end of run.        *****
 *****    **:  see ERROR message printed at end of run.                  *****
 *************************************************************************
 *************************************************************************

 :::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::

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

 **********************    S U M M A R Y   O U T P U T    ********************
 *************************************************************************
 *        DATE: 2015-04-09      TIME: 09:25:58      RUN COUNTER: 000138      *
 *************************************************************************
 * Input    filename: C:\SWMHYMO\THIRDH~1\MAR31--1\PostCHI4.DAT                *
 * Output   filename: C:\SWMHYMO\THIRDH~1\MAR31--1\PostCHI4.out                *
 * Summary  filename: C:\SWMHYMO\THIRDH~1\MAR31--1\PostCHI4.sum                *
 * User comments:                                                            *
 * 1:________________________________________________________________________*
 * 2:________________________________________________________________________*
 * 3:________________________________________________________________________*
 *************************************************************************


#**************************************************************************
#  Project Name: [West End Commercial, Collingwood]    Project Number: [183-269
#  Date         : April 9, 2015
#  Modeller     : [T. MacDougall]
#  Company      : CF Crozier & Associates Inc.
#  License #    : 3737016
#**************************************************************************
#   Proposed Conditions - 4 Cell Pond
#
#   Rainfall Data:  Storms are the SCS Volumes from MTO Design Chart 1.01(e)
#   District 5: Owen Sound, Basins West of and including Collingwood.
#-----------------|--------------------------------------------------------|
 RUN:COMMAND#
 001:0001-----------------------------------------------------------------
      START
       [TZERO =      .00 hrs on        0]
       [METOUT=    2     (1=imperial, 2=metric output)]
       [NSTORM=    0 ]
       [NRUN  =    1 ]
#-----------------|--------------------------------------------------------|
#**************************************************************************
#                                     25mm Event
#**************************************************************************
#-----------------|--------------------------------------------------------|
 001:0002-----------------------------------------------------------------
      CHICAGO STORM
       [SDT= 5.00:SDUR=    4.00:PTOT=   24.99]
       [A/B/C= 568.700/    6.662/     .819]
#-----------------|--------------------------------------------------------|
#--------------------------------- OUTLET: HIGH STREET --------------------|
#-----------------|--------------------------------------------------------|
#-----------------|----------------- EXTERNAL AREA #1 ---------------------|
#-----------------|--------------------------------------------------------|
 001:0003---------------ID:NHYD------------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
      CALIB STANDHYD     01:EXT1              .60      .079 No_date    1:21   21.24
       [XIMP=.75:TIMP=.94]
       [LOSS= 2 :CN= 84.0]
       [Pervious    area: IAper= 5.00:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 2.00:SLPI=1.00:LGI= 120.:MNI=.013:SCI=   .0]
#-----------------|--------------------------------------------------------|
#-----------------|------- SITE AREA CONTRIBUTING TO SWM FACILTY ----------|
#-----------------|--------------------------------------------------------|
 001:0004---------------ID:NHYD------------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
      CALIB STANDHYD     02:AREA            15.00     1.250 No_date    1:25   19.25
       [XIMP=.68:TIMP=.85]
       [LOSS= 2 :CN= 84.0]
       [Pervious    area: IAper= 5.00:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 2.00:SLPI= .50:LGI= 300.:MNI=.013:SCI=   .0]
#-----------------|--------------------------------------------------------|
 001:0005---------------ID:NHYD------------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
      ADD HYD            01:EXT1              .60      .079 No_date    1:21   21.24
                       + 02:AREA            15.00     1.250 No_date    1:25   19.25
       [DT= 1.00]  SUM= 03:ToPond          15.60     1.309 No_date    1:25   19.33
#-----------------|--------------------------------------------------------|
#-----------------|------------ REGIONAL SWM FACILITY ---------------------|
#-----------------|--------------------------------------------------------|
 001:0006---------------ID:NHYD------------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
      ROUTE RESERVOIR -> 03:ToPond          15.60     1.309 No_date    1:25   19.33
       [RDT= 1.00] out<- 01:StSWM           15.60      .019 No_date    4:17   19.33
                overflow <= 09:OVF            .00      .000 No_date    0:00     .00
      {MxStoUsed=.2826E+00, TotOvfVol=.0000E+00, N-Ovf=     0, TotDurOvf=    0.hrs
#-----------------|--------------------------------------------------------|
#-------------------------------------- B2 --------------------------------|
#-----------------|--------------------------------------------------------|
 001:0007---------------ID:NHYD------------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
      DESIGN STANDHYD    02:B2                .73      .089 No_date    1:21   20.47
       [XIMP=.68:TIMP=.85]
       [SLP= .50:DT= 1.00]
       [LOSS= 2 :CN= 84.0]
#-----------------|--------------------------------------------------------|
 001:0008---------------ID:NHYD------------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
      ROUTE RESERVOIR -> 02:B2                .73      .089 No_date    1:21   20.47
       [RDT= 1.00] out<- 03:StorB2            .73      .005 No_date    2:42   20.47
                overflow <= 09:OVF            .00      .000 No_date    0:00     .00
      {MxStoUsed=.1084E-01, TotOvfVol=.0000E+00, N-Ovf=     0, TotDurOvf=    0.hrs
#-----------------|--------------------------------------------------------|
 001:0009---------------ID:NHYD------------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
      ADD HYD            01:StSWM           15.60      .019 No_date    4:17   19.33
                       + 03:StorB2            .73      .005 No_date    2:42   20.47
       [DT= 1.00]  SUM= 04:SumB2           16.33      .024 No_date    4:00   19.38
#-----------------|--------------------------------------------------------|
#--------------------------------------- C --------------------------------|
#-----------------|--------------------------------------------------------|
 001:0010---------------ID:NHYD------------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
      DESIGN STANDHYD    03:C                 .68      .090 No_date    1:20   20.47
       [XIMP=.68:TIMP=.85]
       [SLP=1.00:DT= 1.00]
       [LOSS= 2 :CN= 84.0]
 001:0011---------------ID:NHYD------------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
      ROUTE RESERVOIR -> 03:C                 .68      .090 No_date    1:20   20.47
       [RDT= 1.00] out<- 02:StC               .68      .005 No_date    2:31   20.47
                overflow <= 09:OVF            .00      .000 No_date    0:00     .00
      {MxStoUsed=.9955E-02, TotOvfVol=.0000E+00, N-Ovf=     0, TotDurOvf=    0.hrs
#-----------------|--------------------------------------------------------|
 001:0012---------------ID:NHYD------------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
      ADD HYD            02:StC               .68      .005 No_date    2:31   20.47
                       + 04:SumB2           16.33      .024 No_date    4:00   19.38
       [DT= 1.00]  SUM= 01:SumC            17.01      .029 No_date    3:56   19.42
#-----------------|--------------------------------------------------------|
#--------------------------------------- R4 -------------------------------|
#-----------------|--------------------------------------------------------|
 001:0013---------------ID:NHYD------------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
      DESIGN STANDHYD    02:R4                .48      .051 No_date    1:20   17.98
       [XIMP=.56:TIMP=.70]
       [SLP= .50:DT= 1.00]
       [LOSS= 2 :CN= 84.0]
#-----------------|--------------------------------------------------------|
 001:0014---------------ID:NHYD------------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
      ROUTE RESERVOIR -> 02:R4                .48      .051 No_date    1:20   17.98
       [RDT= 1.00] out<- 04:StR4              .48      .008 No_date    2:00   17.98
                overflow <= 09:OVF            .00      .000 No_date    0:00     .00
      {MxStoUsed=.4324E-02, TotOvfVol=.0000E+00, N-Ovf=     0, TotDurOvf=    0.hrs
#-----------------|--------------------------------------------------------|
#-----------------|---- CONTROLLED DISCHARGE TO HIGH STREET FROM SITE -------|
#-----------------|--------------------------------------------------------|
 001:0015---------------ID:NHYD------------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
      ADD HYD            01:SumC            17.01      .029 No_date    3:56   19.42
                       + 04:StR4              .48      .008 No_date    2:00   17.98
       [DT= 1.00]  SUM= 03:HighSt          17.49      .034 No_date    2:48   19.38
#-----------------|--------------------------------------------------------|
#--------------------------------------- B1 -------------------------------|
#-----------------|--------------------------------------------------------|
 001:0016---------------ID:NHYD------------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
      CALIB NASHYD       02:B1                .33      .006 No_date    1:35    5.84
       [CN= 84.0: N= 3.00]
       [Tp=  .17:DT= 1.00]
#-----------------|--------------------------------------------------------|
#-----------------|---- TOTAL DISCHARGE TO HIGH STREET FROM SITE -----------|
#-----------------|--------------------------------------------------------|
 001:0017---------------ID:NHYD------------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
      ADD HYD            02:B1                .33      .006 No_date    1:35    5.84
                       + 03:HighSt          17.49      .034 No_date    2:48   19.38
       [DT= 1.00]  SUM= 04:SumB1           17.82      .035 No_date    2:36   19.13
#-----------------|--------------------------------------------------------|
#-----------------|------------------- EXTERNAL AREA #2 --------------------|
#-----------------|--------------------------------------------------------|
 001:0018---------------ID:NHYD------------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
      CALIB NASHYD       01:EXT2             1.90      .035 No_date    1:35    5.84
       [CN= 84.0: N= 3.00]
       [Tp=  .17:DT= 1.00]
#-----------------|--------------------------------------------------------|
#-----------------|-----------------GOODALL SITE----------------------------|
#-----------------|--------------------------------------------------------|
 001:0019---------------ID:NHYD------------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
      CALIB STANDHYD     02:Goodall          2.91      .213 No_date    1:24   16.63
       [XIMP=.56:TIMP=.70]
       [LOSS= 2 :CN= 84.0]
       [Pervious    area: IAper= 5.00:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 2.00:SLPI= .50:LGI= 240.:MNI=.013:SCI=   .0]
#-----------------|--------------------------------------------------------|
 001:0020---------------ID:NHYD------------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
      ADD HYD            01:EXT2             1.90      .035 No_date    1:35    5.84
                       + 02:Goodall          2.91      .213 No_date    1:24   16.63
       [DT= 1.00]  SUM= 05:GdSum            4.81      .230 No_date    1:25   12.37
#-----------------|--------------------------------------------------------|
#-----------------|---------- TOTAL DISCHARGE TO HIGH STREET ---------------|
#-----------------|--------------------------------------------------------|
 001:0021---------------ID:NHYD------------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
      ADD HYD            04:SumB1           17.82      .035 No_date    2:36   19.13
                       + 05:GdSum            4.81      .230 No_date    1:25   12.37
       [DT= 1.00]  SUM= 03:HighTot         22.63      .250 No_date    1:25   17.70
#-----------------|--------------------------------------------------------|
#------------------------------- OUTLET: CAMBRIDGE STREET -----------------|
#-----------------|--------------------------------------------------------|
#--------------------------------------- R5 -------------------------------|
#-----------------|--------------------------------------------------------|
 001:0022---------------ID:NHYD------------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
      DESIGN STANDHYD    06:R5                .16      .018 No_date    1:20   17.98
       [XIMP=.56:TIMP=.70]
       [SLP= .50:DT= 1.00]
       [LOSS= 2 :CN= 84.0]
#-----------------|--------------------------------------------------------|
#------------------------------- OUTLET: HOME DEPOT -----------------------|
#----------------------------------- SWM POND -----------------------------|
#---------------------------------- REVISED 201 ---------------------------|
#-----------------|--------------------------------------------------------|
 001:0023---------------ID:NHYD------------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
      CALIB STANDHYD     07:Rev201           2.50      .377 No_date    1:21   21.28
       [XIMP=.90:TIMP=.90]
       [LOSS= 2 :CN= 84.0]
       [Pervious    area: IAper= 5.00:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 2.00:SLPI=1.00:LGI= 130.:MNI=.013:SCI=   .0]
#-----------------|--------------------------------------------------------|
#**************************************************************************
#************************** 4 hour Chicago 5 year *************************
#**************************************************************************
#-----------------|--------------------------------------------------------|
 001:0024-----------------------------------------------------------------
      CHICAGO STORM
       [SDT= 5.00:SDUR=    4.00:PTOT=   46.10]
       [A/B/C=1081.402/    9.194/     .823: R=.9994]
#-----------------|--------------------------------------------------------|
#--------------------------------- OUTLET: HIGH STREET --------------------|
#-----------------|--------------------------------------------------------|
#-----------------|----------------- EXTERNAL AREA #1 ---------------------|
#-----------------|--------------------------------------------------------|
 001:0025---------------ID:NHYD------------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
      CALIB STANDHYD     01:EXT1              .60      .143 No_date    1:21   41.99
       [XIMP=.75:TIMP=.94]
       [LOSS= 2 :CN= 84.0]
       [Pervious    area: IAper= 5.00:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 2.00:SLPI=1.00:LGI= 120.:MNI=.013:SCI=   .0]
#-----------------|--------------------------------------------------------|
#-----------------|------- SITE AREA CONTRIBUTING TO SWM FACILTY ----------|
```

```
#----------------|------------------------------------------------------|
 001:0026---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD     02:AREA          15.00     2.429 No_date    1:25    39.21
      [XIMP=.68:TIMP=.85]
      [LOSS= 2 :CN= 84.0]
      [Pervious     area: IAper= 5.00:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI= .50:LGI= 300.:MNI=.013:SCI=   .0]
#----------------|------------------------------------------------------|
 001:0027---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            01:EXT1             .60      .143 No_date    1:21    41.99
                      + 02:AREA           15.00     2.429 No_date    1:25    39.21
      [DT= 1.00]  SUM=  03:ToPond         15.60     2.544 No_date    1:24    39.31
#----------------|------------------------------------------------------|
#--------------------------- REGIONAL SWM FACILITY ---------------------|
#----------------|------------------------------------------------------|
 001:0028---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ROUTE RESERVOIR -> 03:ToPond         15.60     2.544 No_date    1:24    39.31
      [RDT= 1.00] out<- 01:StSWM          15.60      .027 No_date    4:17    39.31
             overflow <= 09:OVF             .00      .000 No_date    0:00      .00
     {MxStoUsed=.5852E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs
#----------------|------------------------------------------------------|
#---------------------------------- B2 ---------------------------------|
#----------------|------------------------------------------------------|
 001:0029---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     DESIGN STANDHYD    02:B2               .73      .160 No_date    1:20    40.49
      [XIMP=.68:TIMP=.85]
      [SLP= .50:DT= 1.00]
      [LOSS= 2 :CN= 84.0]
#----------------|------------------------------------------------------|
 001:0030---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ROUTE RESERVOIR -> 02:B2               .73      .160 No_date    1:20    40.49
      [RDT= 1.00] out<- 03:StorB2           .73      .010 No_date    2:38    40.49
             overflow <= 09:OVF             .00      .000 No_date    0:00      .00
     {MxStoUsed=.2153E-01, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs
#----------------|------------------------------------------------------|
 001:0031---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            01:StSWM          15.60      .027 No_date    4:17    39.31
                      + 03:StorB2           .73      .010 No_date    2:38    40.49
      [DT= 1.00]  SUM=  04:SumB2          16.33      .036 No_date    3:32    39.36
#----------------|------------------------------------------------------|
#---------------------------------- C ----------------------------------|
#----------------|------------------------------------------------------|
 001:0032---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     DESIGN STANDHYD    03:C                .68      .158 No_date    1:20    40.49
      [XIMP=.68:TIMP=.85]
      [SLP=1.00:DT= 1.00]
      [LOSS= 2 :CN= 84.0]
 001:0033---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ROUTE RESERVOIR -> 03:C                .68      .158 No_date    1:20    40.49
      [RDT= 1.00] out<- 02:StC              .68      .010 No_date    2:30    40.49
             overflow <= 09:OVF             .00      .000 No_date    0:00      .00
     {MxStoUsed=.1973E-01, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs
#----------------|------------------------------------------------------|
 001:0034---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            02:StC              .68      .010 No_date    2:30    40.49
                      + 04:SumB2          16.33      .036 No_date    3:32    39.36
      [DT= 1.00]  SUM=  01:SumC           17.01      .046 No_date    3:00    39.41
#----------------|------------------------------------------------------|
#---------------------------------- R4 ---------------------------------|
#----------------|------------------------------------------------------|
 001:0035---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     DESIGN STANDHYD    02:R4               .48      .088 No_date    1:20    36.82
      [XIMP=.56:TIMP=.70]
      [SLP= .50:DT= 1.00]
      [LOSS= 2 :CN= 84.0]
#----------------|------------------------------------------------------|
 001:0036---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ROUTE RESERVOIR -> 02:R4               .48      .088 No_date    1:20    36.82
      [RDT= 1.00] out<- 04:StR4             .48      .016 No_date    2:00    36.82
             overflow <= 09:OVF             .00      .000 No_date    0:00      .00
     {MxStoUsed=.9125E-02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs
#----------------|------------------------------------------------------|
#----------------|---- CONTROLLED DISCHARGE TO HIGH STREET FROM SITE ----|
#----------------|------------------------------------------------------|
 001:0037---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            01:SumC           17.01      .046 No_date    3:00    39.41
                      + 04:StR4             .48      .016 No_date    2:00    36.82
      [DT= 1.00]  SUM=  03:HighSt         17.49      .061 No_date    2:18    39.34
#----------------|------------------------------------------------------|
#---------------------------------- B1 ---------------------------------|
#----------------|------------------------------------------------------|
 001:0038---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       02:B1               .33      .021 No_date    1:34    18.87
      [CN= 84.0: N= 3.00]
      [Tp=  .17:DT= 1.00]
#----------------|------------------------------------------------------|
#----------------|---- TOTAL DISCHARGE TO HIGH STREET FROM SITE ---------|
#----------------|------------------------------------------------------|
 001:0039---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            02:B1               .33      .021 No_date    1:34    18.87
                      + 03:HighSt         17.49      .061 No_date    2:18    39.34
      [DT= 1.00]  SUM=  04:SumB1          17.82      .071 No_date    1:41    38.96
#----------------|------------------------------------------------------|
#----------------|----------------- EXTERNAL AREA #2 -------------------|
#----------------|------------------------------------------------------|
 001:0040---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       01:EXT2            1.90      .120 No_date    1:34    18.87
      [CN= 84.0: N= 3.00]
      [Tp=  .17:DT= 1.00]
#----------------|------------------------------------------------------|
#----------------|-----------------GOODALL SITE-------------------------|
#----------------|------------------------------------------------------|
 001:0041---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD     02:Goodall         2.91      .406 No_date    1:23    15.29
      [XIMP=.56:TIMP=.70]
      [LOSS= 2 :CN= 84.0]
      [Pervious     area: IAper= 5.00:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI= .50:LGI= 240.:MNI=.013:SCI=   .0]
#----------------|------------------------------------------------------|
 001:0042---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            01:EXT2            1.90      .120 No_date    1:34    18.87
                      + 02:Goodall         2.91      .406 No_date    1:23    15.29
      [DT= 1.00]  SUM=  05:GdSum           4.81      .476 No_date    1:24    28.80
#----------------|------------------------------------------------------|
#----------------|---------- TOTAL DISCHARGE TO HIGH STREET ------------|
#----------------|------------------------------------------------------|
 001:0043---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            04:SumB1          17.82      .071 No_date    1:41    38.96
                      + 05:GdSum           4.81      .476 No_date    1:24    28.80
      [DT= 1.00]  SUM=  03:HighTot        22.63      .519 No_date    1:24    36.80
#----------------|------------------------------------------------------|
#------------------------------ OUTLET: CAMBRIDGE STREET ---------------|
#----------------|------------------------------------------------------|
#---------------------------------- R5 ---------------------------------|
#----------------|------------------------------------------------------|
 001:0044---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     DESIGN STANDHYD    06:R5               .16      .031 No_date    1:20    36.82
      [XIMP=.56:TIMP=.70]
      [SLP= .50:DT= 1.00]
      [LOSS= 2 :CN= 84.0]
#----------------|------------------------------------------------------|
#------------------------------ OUTLET: HOME DEPOT ---------------------|
#---------------------------------- SWM POND ---------------------------|
#--------------------------------- REVISED 201 -------------------------|
#----------------|------------------------------------------------------|
 001:0045---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD     07:Rev201          2.50      .648 No_date    1:21    41.57
      [XIMP=.90:TIMP=.90]
      [LOSS= 2 :CN= 84.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI=1.00:LGI= 130.:MNI=.013:SCI=   .0]
#----------------|------------------------------------------------------|
#***********************************************************************
#*********************** 4 hour Chicago 25-year ************************
#***********************************************************************
#----------------|------------------------------------------------------|
 001:0046--------------------------------------------------------------------
     CHICAGO STORM
      [SDT= 5.00:SDUR=   4.00:PTOT=  63.85]
      {A/B/C=1416.634/   9.025/    .813: R=.9988}
#----------------|------------------------------------------------------|
#------------------------------ OUTLET: HIGH STREET --------------------|
#----------------|------------------------------------------------------|
#----------------|--------------- EXTERNAL AREA #1 ---------------------|
#----------------|------------------------------------------------------|
 001:0047---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD     01:EXT1             .60      .207 No_date    1:20    59.60
      [XIMP=.75:TIMP=.94]
      [LOSS= 2 :CN= 84.0]
      [Pervious     area: IAper= 5.00:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI=1.00:LGI= 120.:MNI=.013:SCI=   .0]
#----------------|------------------------------------------------------|
#----------------|------- SITE AREA CONTRIBUTING TO SWM FACILTY --------|
#----------------|------------------------------------------------------|
 001:0048---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD     02:AREA          15.00     3.598 No_date    1:23    56.43
      [XIMP=.68:TIMP=.85]
      [LOSS= 2 :CN= 84.0]
      [Pervious     area: IAper= 5.00:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI= .50:LGI= 300.:MNI=.013:SCI=   .0]
#----------------|------------------------------------------------------|
 001:0049---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            01:EXT1             .60      .207 No_date    1:20    59.60
                      + 02:AREA           15.00     3.598 No_date    1:23    56.43
      [DT= 1.00]  SUM=  03:ToPond         15.60     3.763 No_date    1:23    56.56
#----------------|------------------------------------------------------|
#--------------------------- REGIONAL SWM FACILITY ---------------------|
#----------------|------------------------------------------------------|
 001:0050---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ROUTE RESERVOIR -> 03:ToPond         15.60     3.763 No_date    1:23    56.56
      [RDT= 1.00] out<- 01:StSWM          15.60      .031 No_date    4:16    56.55
             overflow <= 09:OVF             .00      .000 No_date    0:00      .00
     {MxStoUsed=.8490E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs
#----------------|------------------------------------------------------|
#---------------------------------- B2 ---------------------------------|
#----------------|------------------------------------------------------|
 001:0051---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     DESIGN STANDHYD    02:B2               .73      .229 No_date    1:20    57.74
      [XIMP=.68:TIMP=.85]
      [SLP= .50:DT= 1.00]
      [LOSS= 2 :CN= 84.0]
#----------------|------------------------------------------------------|
 001:0052---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ROUTE RESERVOIR -> 02:B2               .73      .229 No_date    1:20    57.74
      [RDT= 1.00] out<- 03:StorB2           .73      .015 No_date    2:37    57.74
             overflow <= 09:OVF             .00      .000 No_date    0:00      .00
     {MxStoUsed=.3065E-01, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs
#----------------|------------------------------------------------------|
 001:0053---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            01:StSWM          15.60      .031 No_date    4:16    56.55
                      + 03:StorB2           .73      .015 No_date    2:37    57.74
      [DT= 1.00]  SUM=  04:SumB2          16.33      .045 No_date    3:36    56.60
#----------------|------------------------------------------------------|
#---------------------------------- C ----------------------------------|
#----------------|------------------------------------------------------|
 001:0054---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     DESIGN STANDHYD    03:C                .68      .226 No_date    1:20    57.74
      [XIMP=.68:TIMP=.85]
      [SLP=1.00:DT= 1.00]
      [LOSS= 2 :CN= 84.0]
 001:0055---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ROUTE RESERVOIR -> 03:C                .68      .226 No_date    1:20    57.74
      [RDT= 1.00] out<- 02:StC              .68      .015 No_date    2:29    57.74
             overflow <= 09:OVF             .00      .000 No_date    0:00      .00
     {MxStoUsed=.2807E-01, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs
#----------------|------------------------------------------------------|
 001:0056---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            02:StC              .68      .015 No_date    2:29    57.74
                      + 04:SumB2          16.33      .045 No_date    3:36    56.60
      [DT= 1.00]  SUM=  01:SumC           17.01      .059 No_date    3:01    56.65
#----------------|------------------------------------------------------|
#---------------------------------- R4 ---------------------------------|
#----------------|------------------------------------------------------|
 001:0057---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     DESIGN STANDHYD    02:R4               .48      .127 No_date    1:20    53.43
      [XIMP=.56:TIMP=.70]
      [SLP= .50:DT= 1.00]
      [LOSS= 2 :CN= 84.0]
#----------------|------------------------------------------------------|
 001:0058---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ROUTE RESERVOIR -> 02:R4               .48      .127 No_date    1:20    53.43
      [RDT= 1.00] out<- 04:StR4             .48      .023 No_date    1:58    53.43
             overflow <= 09:OVF             .00      .000 No_date    0:00      .00
     {MxStoUsed=.1341E-01, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs
#----------------|------------------------------------------------------|
#----------------|---- CONTROLLED DISCHARGE TO HIGH STREET FROM SITE ----|
#----------------|------------------------------------------------------|
 001:0059---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            01:SumC           17.01      .059 No_date    3:01    56.65
                      + 04:StR4             .48      .023 No_date    1:58    53.43
      [DT= 1.00]  SUM=  03:HighSt         17.49      .080 No_date    2:16    56.56
#----------------|------------------------------------------------------|
#---------------------------------- B1 ---------------------------------|
#----------------|------------------------------------------------------|
 001:0060---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       02:B1               .33      .037 No_date    1:33    32.29
      [CN= 84.0: N= 3.00]
      [Tp=  .17:DT= 1.00]
#----------------|------------------------------------------------------|
#----------------|---- TOTAL DISCHARGE TO HIGH STREET FROM SITE ---------|
#----------------|------------------------------------------------------|
 001:0061---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            02:B1               .33      .037 No_date    1:33    32.29
                      + 03:HighSt         17.49      .080 No_date    2:16    56.56
      [DT= 1.00]  SUM=  04:SumB1          17.82      .104 No_date    1:37    56.11
#----------------|------------------------------------------------------|
#----------------|----------------- EXTERNAL AREA #2 -------------------|
#----------------|------------------------------------------------------|
 001:0062---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       01:EXT2            1.90      .212 No_date    1:33    32.29
      [CN= 84.0: N= 3.00]
      [Tp=  .17:DT= 1.00]
#----------------|------------------------------------------------------|
#----------------|-----------------GOODALL SITE-------------------------|
#----------------|------------------------------------------------------|
 001:0063---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD     02:Goodall         2.91      .604 No_date    1:22    51.84
      [XIMP=.56:TIMP=.70]
      [LOSS= 2 :CN= 84.0]
      [Pervious     area: IAper= 5.00:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
```

```
        [Impervious   area: IAimp= 2.00:SLPI= .50:LGI= 240.:MNI=.013:SCI=   .0]
#-----------------|-----------------------------------------------------------|
 001:0064---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD             01:EXT2           1.90     .212 No_date    1:33   32.29
                       + 02:Goodall        2.91     .604 No_date    1:22   51.04
        [DT= 1.00]  SUM= 05:GdSum          4.81     .723 No_date    1:23   44.12
#-----------------|-----------------------------------------------------------|
#-----------------|--------- TOTAL DISCHARGE TO HIGH STREET ------------------|
#-----------------|-----------------------------------------------------------|
 001:0065---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD             04:SumB1         17.82     .104 No_date    1:37   56.11
                       + 05:GdSum          4.81     .723 No_date    1:23   44.12
        [DT= 1.00]  SUM= 03:HighTot       22.63     .794 No_date    1:26   53.56
#-----------------|-----------------------------------------------------------|
#------------------------- OUTLET: CAMBRIDGE STREET --------------------------|
#-----------------|-----------------------------------------------------------|
#-------------------------------------- R5 ----------------------------------|
#-----------------|-----------------------------------------------------------|
 001:0066---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     DESIGN STANDHYD     06:R5              .16     .044 No_date    1:20   53.43
       [XIMP=.56:TIMP=.70]
       [SLP= .50:DT= 1.00]
       [LOSS= 2 :CN= 84.0]
#-----------------|-----------------------------------------------------------|
#------------------------- OUTLET: HOME DEPOT -------------------------------|
#----------------------------- SWM POND -------------------------------------|
#---------------------------- REVISED 201 -----------------------------------|
#-----------------|-----------------------------------------------------------|
 001:0067---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD      07:Rev201         2.50     .935 No_date    1:20   58.89
       [XIMP=.90:TIMP=.90]
       [LOSS= 2 :CN= 84.0]
       [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 2.00:SLPI=1.00:LGI= 130.:MNI=.013:SCI=   .0]
#-----------------|-----------------------------------------------------------|
#*****************************************************************************
#------------------------- 4 hour Chicago 100-year --------------------------|
#*****************************************************************************
#-----------------|-----------------------------------------------------------|
 001:0068----------------------------------------------------------------------
     CHICAGO STORM
       [SDT= 5.00:SDUR=  4.00:PTOT=  78.22]
       [A/B/C=1660.507/  9.012/   .805: R=.9989]
#-----------------|-----------------------------------------------------------|
#---------------------------- OUTLET: HIGH STREET ----------------------------|
#-----------------|-----------------------------------------------------------|
#-----------------|------------- EXTERNAL AREA #1 ----------------------------|
#-----------------|-----------------------------------------------------------|
 001:0069---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD      01:EXT1            .60     .256 No_date    1:20   73.90
       [XIMP=.75:TIMP=.94]
       [LOSS= 2 :CN= 84.0]
       [Pervious     area: IAper= 5.00:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 2.00:SLPI=1.00:LGI= 120.:MNI=.013:SCI=   .0]
#-----------------|-----------------------------------------------------------|
#-----------------|------- SITE AREA CONTRIBUTING TO SWM FACILTY ------------|
#-----------------|-----------------------------------------------------------|
 001:0070---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD      02:AREA          15.00    4.562 No_date    1:23   70.52
       [XIMP=.68:TIMP=.85]
       [LOSS= 2 :CN= 84.0]
       [Pervious     area: IAper= 5.00:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 2.00:SLPI= .50:LGI= 300.:MNI=.013:SCI=   .0]
#-----------------|-----------------------------------------------------------|
 001:0071---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD             01:EXT1            .60     .256 No_date    1:20   73.90
                       + 02:AREA          15.00    4.562 No_date    1:23   70.52
        [DT= 1.00]  SUM= 03:ToPond        15.60    4.765 No_date    1:23   70.65
#-----------------|-----------------------------------------------------------|
#---------------------------- REGIONAL SWM FACILITY -------------------------|
#-----------------|-----------------------------------------------------------|
 001:0072---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ROUTE RESERVOIR -> 03:ToPond         15.60    4.765 No_date    1:23   70.65
       [RDT= 1.00] out<- 01:StSWM         15.60     .035 No_date    4:16   70.65
              overflow <= 09:OVF            .00     .000 No_date    0:00     .00
      {MxStoUsed=.1065E+01, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=     0.hrs
#-----------------|-----------------------------------------------------------|
#-------------------------------------- B2 ----------------------------------|
#-----------------|-----------------------------------------------------------|
 001:0073---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     DESIGN STANDHYD     03:B2              .73     .284 No_date    1:20   71.83
       [XIMP=.68:TIMP=.85]
       [SLP= .50:DT= 1.00]
       [LOSS= 2 :CN= 84.0]
#-----------------|-----------------------------------------------------------|
 001:0074---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ROUTE RESERVOIR -> 02:B2               .73     .284 No_date    1:20   71.83
       [RDT= 1.00] out<- 03:StorB2          .73     .018 No_date    2:37   71.83
              overflow <= 09:OVF            .00     .000 No_date    0:00     .00
      {MxStoUsed=.3804E-01, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=     0.hrs
#-----------------|-----------------------------------------------------------|
 001:0075---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD             01:StSWM         15.60     .035 No_date    4:16   70.65
                       + 03:StorB2          .73     .018 No_date    2:37   71.83
        [DT= 1.00]  SUM= 04:SumB2         16.33     .052 No_date    3:20   70.70
#-----------------|-----------------------------------------------------------|
#-------------------------------------- C -----------------------------------|
#-----------------|-----------------------------------------------------------|
 001:0076---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     DESIGN STANDHYD     03:C               .68     .280 No_date    1:20   71.83
       [XIMP=.68:TIMP=.85]
       [SLP=1.00:DT= 1.00]
       [LOSS= 2 :CN= 84.0]
 001:0077---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ROUTE RESERVOIR -> 03:C                .68     .280 No_date    1:20   71.83
       [RDT= 1.00] out<- 02:StC             .68     .018 No_date    2:29   71.83
              overflow <= 09:OVF            .00     .000 No_date    0:00     .00
      {MxStoUsed=.3481E-01, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=     0.hrs
#-----------------|-----------------------------------------------------------|
 001:0078---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD             02:StC             .68     .018 No_date    2:29   71.83
                       + 04:SumB2         16.33     .052 No_date    3:20   70.70
        [DT= 1.00]  SUM= 01:SumC          17.01     .070 No_date    2:53   70.74
#-----------------|-----------------------------------------------------------|
#-------------------------------------- R4 ----------------------------------|
#-----------------|-----------------------------------------------------------|
 001:0079---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     DESIGN STANDHYD     02:R4              .48     .157 No_date    1:20   67.15
       [XIMP=.56:TIMP=.70]
       [SLP= .50:DT= 1.00]
       [LOSS= 2 :CN= 84.0]
#-----------------|-----------------------------------------------------------|
 001:0080---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ROUTE RESERVOIR -> 02:R4               .48     .157 No_date    1:20   67.15
       [RDT= 1.00] out<- 04:StR4            .48     .030 No_date    1:57   67.15
              overflow <= 09:OVF            .00     .000 No_date    0:00     .00
      {MxStoUsed=.1689E-01, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=     0.hrs
#-----------------|-----------------------------------------------------------|
#-----------------|---- CONTROLLED DISCHARGE TO HIGH STREET FROM SITE -------|
#-----------------|-----------------------------------------------------------|
 001:0081---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD             01:SumC          17.01     .070 No_date    2:53   70.74
                       + 04:StR4            .48     .030 No_date    1:57   67.15
        [DT= 1.00]  SUM= 03:HighSt        17.49     .096 No_date    2:15   70.65
#-----------------|-----------------------------------------------------------|
#-------------------------------------- B1 ----------------------------------|
#-----------------|-----------------------------------------------------------|
 001:0082---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD        02:B1              .33     .051 No_date    1:32   44.09
       [CN= 84.0: N= 3.00]
       [Tp=  .17:DT= 1.00]
#-----------------|-----------------------------------------------------------|
#-----------------|---- TOTAL DISCHARGE TO HIGH STREET FROM SITE ------------|
#-----------------|-----------------------------------------------------------|
 001:0083---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD             02:B1              .33     .051 No_date    1:32   44.09
                       + 03:HighSt        17.49     .096 No_date    2:15   70.65
        [DT= 1.00]  SUM= 04:SumB1         17.82     .130 No_date    1:37   70.15
#-----------------|-----------------------------------------------------------|
#-----------------|--------------- EXTERNAL AREA #2 --------------------------|
#-----------------|-----------------------------------------------------------|
 001:0084---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD        01:EXT2           1.90     .291 No_date    1:32   44.09
       [CN= 84.0: N= 3.00]
       [Tp=  .17:DT= 1.00]
#-----------------|-----------------------------------------------------------|
#-----------------|---------------GOODALL SITE--------------------------------|
#-----------------|-----------------------------------------------------------|
 001:0085---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD      02:Goodall        2.91     .761 No_date    1:22   65.53
       [XIMP=.56:TIMP=.70]
       [LOSS= 2 :CN= 84.0]
       [Pervious     area: IAper= 5.00:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 2.00:SLPI= .50:LGI= 240.:MNI=.013:SCI=   .0]
#-----------------|-----------------------------------------------------------|
 001:0086---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD             01:EXT2           1.90     .291 No_date    1:32   44.09
                       + 02:Goodall        2.91     .761 No_date    1:22   65.53
        [DT= 1.00]  SUM= 05:GdSum          4.81     .933 No_date    1:23   57.06
#-----------------|-----------------------------------------------------------|
#-----------------|--------- TOTAL DISCHARGE TO HIGH STREET ------------------|
#-----------------|-----------------------------------------------------------|
 001:0087---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD             04:SumB1         17.82     .130 No_date    1:37   70.15
                       + 05:GdSum          4.81     .933 No_date    1:23   57.06
        [DT= 1.00]  SUM= 03:HighTot       22.63    1.030 No_date    1:26   67.37
#-----------------|-----------------------------------------------------------|
#------------------------- OUTLET: CAMBRIDGE STREET --------------------------|
#-----------------|-----------------------------------------------------------|
#-------------------------------------- R5 ----------------------------------|
#-----------------|-----------------------------------------------------------|
 001:0088---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     DESIGN STANDHYD     06:R5              .16     .055 No_date    1:20   67.15
       [XIMP=.56:TIMP=.70]
       [SLP= .50:DT= 1.00]
       [LOSS= 2 :CN= 84.0]
#-----------------|-----------------------------------------------------------|
#------------------------- OUTLET: HOME DEPOT -------------------------------|
#----------------------------- SWM POND -------------------------------------|
#---------------------------- REVISED 201 -----------------------------------|
#-----------------|-----------------------------------------------------------|
 001:0089---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD      07:Rev201         2.50    1.142 No_date    1:20   73.00
       [XIMP=.90:TIMP=.90]
       [LOSS= 2 :CN= 84.0]
       [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 2.00:SLPI=1.00:LGI= 130.:MNI=.013:SCI=   .0]
#-----------------|-----------------------------------------------------------|
#*****************************************************************************
#------------------------------ REGIONAL EVENT ------------------------------|
#*****************************************************************************
#-----------------|-----------------------------------------------------------|
 001:0090----------------------------------------------------------------------
     READ STORM
       Filename = tim.STM
       Comment  =
       [SDT=60.00:SDUR=  12.00:PTOT= 193.00]
#-----------------|-----------------------------------------------------------|
#---------------------------- OUTLET: HIGH STREET ----------------------------|
#-----------------|-----------------------------------------------------------|
#-----------------|------------- EXTERNAL AREA #1 ----------------------------|
#-----------------|-----------------------------------------------------------|
 001:0091---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD      01:EXT1            .60     .071 No_date    7:00  188.46
       [XIMP=.75:TIMP=.94]
       [LOSS= 2 :CN= 84.0]
       [Pervious     area: IAper= 5.00:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 2.00:SLPI=1.00:LGI= 120.:MNI=.013:SCI=   .0]
#-----------------|-----------------------------------------------------------|
#-----------------|------- SITE AREA CONTRIBUTING TO SWM FACILTY ------------|
#-----------------|-----------------------------------------------------------|
 001:0092---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD      02:AREA          15.00    1.742 No_date    7:00  184.40
       [XIMP=.68:TIMP=.85]
       [LOSS= 2 :CN= 84.0]
       [Pervious     area: IAper= 5.00:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 2.00:SLPI= .50:LGI= 300.:MNI=.013:SCI=   .0]
#-----------------|-----------------------------------------------------------|
 001:0093---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD             01:EXT1            .60     .071 No_date    7:00  188.46
                       + 02:AREA          15.00    1.742 No_date    7:00  184.40
        [DT= 1.00]  SUM= 03:ToPond        15.60    1.814 No_date    7:00  184.56
#-----------------|-----------------------------------------------------------|
#---------------------------- REGIONAL SWM FACILITY -------------------------|
#-----------------|-----------------------------------------------------------|
 001:0094---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ROUTE RESERVOIR -> 03:ToPond         15.60    1.814 No_date    7:00  184.56
       [RDT= 1.00] out<- 01:StSWM         15.60     .926 No_date    9:06  184.54
              overflow <= 09:OVF            .00     .000 No_date    0:00     .00
      {MxStoUsed=.1939E+01, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=     0.hrs
#-----------------|-----------------------------------------------------------|
#-------------------------------------- B2 ----------------------------------|
#-----------------|-----------------------------------------------------------|
 001:0095---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     DESIGN STANDHYD     02:B2              .73     .084 No_date    7:00  185.74
       [XIMP=.68:TIMP=.85]
       [SLP= .50:DT= 1.00]
       [LOSS= 2 :CN= 84.0]
#-----------------|-----------------------------------------------------------|
 001:0096---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ROUTE RESERVOIR -> 02:B2               .73     .084 No_date    7:00  185.74
       [RDT= 1.00] out<- 03:StorB2          .55     .020 No_date    6:39  185.74
              overflow <= 09:OVF            .18     .066 No_date    7:00  185.74
      {MxStoUsed=.4200E-01, TotOvfVol=.3372E-01, N-Ovf=    2, TotDurOvf=     4.hrs
#-----------------|-----------------------------------------------------------|
 001:0097---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD             01:StSWM         15.60     .926 No_date    9:06  184.54
                       + 03:StorB2          .55     .020 No_date    6:39  185.74
        [DT= 1.00]  SUM= 04:SumB2         16.15     .946 No_date    9:06  184.58
#-----------------|-----------------------------------------------------------|
#-------------------------------------- C -----------------------------------|
#-----------------|-----------------------------------------------------------|
 001:0098---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     DESIGN STANDHYD     03:C               .68     .080 No_date    7:00  185.74
       [XIMP=.68:TIMP=.85]
       [SLP=1.00:DT= 1.00]
       [LOSS= 2 :CN= 84.0]
 001:0099---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ROUTE RESERVOIR -> 03:C                .68     .080 No_date    7:00  185.74
       [RDT= 1.00] out<- 02:StC             .52     .020 No_date    6:37  185.74
```

```
00811>            overflow <= 09:OVF          .16     .060 No_date    7:00  185.74
00812>     (MxStoUsed=.3800E-01, TotOvfVol=.2903E-01, N-Ovf=     3, TotDurOvf=    4.hrs
00813> #-----------------|-------------------------------------------------------|
00814>  001:0100---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00815>      ADD HYD           02:StC            .52     .020 No_date    6:37  185.74
00816>                     + 04:SumB2         16.15     .946 No_date    9:06  184.58
00817>       [DT= 1.00]  SUM=  01:SumC         16.67     .966 No_date    9:06  184.62
00818> #-----------------|-------------------------------------------------------|
00819> #-----------------|-------------- R4 ----------------------------------------|
00820> #-----------------|-------------------------------------------------------|
00821>  001:0101---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00822>      DESIGN STANDHYD    02:R4             .48     .055 No_date    7:00  179.72
00823>       [XIMP=.56:TIMP=.70]
00824>       [SLP= .50:DT= 1.00]
00825>       [LOSS= 2 :CN= 84.0]
00826> #-----------------|-------------------------------------------------------|
00827>  001:0102---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00828>      ROUTE RESERVOIR -> 02:R4             .48     .055 No_date    7:00  179.72
00829>       [RDT= 1.00] out<- 04:StR4           .48     .033 No_date    7:19  179.72
00830>            overflow <= 09:OVF            .00     .000 No_date    0:00     .00
00831>     (MxStoUsed=.1862E-01, TotOvfVol=.0000E+00, N-Ovf=     0, TotDurOvf=    0.hrs
00832> #-----------------|-------------------------------------------------------|
00833> #-----------------|--- CONTROLLED DISCHARGE TO HIGH STREET FROM SITE ------|
00834> #-----------------|-------------------------------------------------------|
00835>  001:0103---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00836>      ADD HYD           01:SumC          16.67     .966 No_date    9:06  184.62
00837>                     + 04:StR4            .48     .033 No_date    7:19  179.72
00838>       [DT= 1.00]  SUM=  03:HighSt       17.15     .996 No_date    9:06  184.48
00839> #-----------------|-------------------------------------------------------|
00840> #-----------------|-------------- B1 ----------------------------------------|
00841> #-----------------|-------------------------------------------------------|
00842>  001:0104---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00843>      CALIB NASHYD       02:B1             .33     .035 No_date    7:00  149.52
00844>       [CN= 84.0 :N= 3.00]
00845>       [Tp=  .17:DT= 1.00]
00846> #-----------------|-------------------------------------------------------|
00847> #-----------------|---- TOTAL DISCHARGE TO HIGH STREET FROM SITE ----------|
00848> #-----------------|-------------------------------------------------------|
00849>  001:0105---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00850>      ADD HYD           02:B1             .33     .035 No_date    7:00  149.52
00851>                     + 03:HighSt       17.15     .996 No_date    9:06  184.48
00852>       [DT= 1.00]  SUM=  04:SumB1        17.48    1.015 No_date    9:05  183.82
00853> #-----------------|-------------------------------------------------------|
00854> #-----------------|-------------- EXTERNAL AREA #2 ----------------------------|
00855> #-----------------|-------------------------------------------------------|
00856>  001:0106---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00857>      CALIB NASHYD       01:EXT2           1.90     .203 No_date    7:00  149.52
00858>       [CN= 84.0 :N= 3.00]
00859>       [Tp=  .17:DT= 1.00]
00860> #-----------------|-------------------------------------------------------|
00861> #-----------------|--------------GOODALL SITE-----------------------------|
00862> #-----------------|-------------------------------------------------------|
00863>  001:0107---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00864>      CALIB STANDHYD     02:Goodall        2.91     .329 No_date    7:00  178.02
00865>       [XIMP=.56:TIMP=.70]
00866>       [LOSS= 2 :CN= 84.0]
00867>       [Pervious     area: IAper= 5.00:SLPP= .50:LGP=  40.:MNP=.250:SCP=    .0]
00868>       [Impervious   area: IAimp= 2.00:SLPI= .50:LGI= 240.:MNI=.013:SCI=    .0]
00869> #-----------------|-------------------------------------------------------|
00870>  001:0108---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00871>      ADD HYD           01:EXT2           1.90     .203 No_date    7:00  149.52
00872>                     + 02:Goodall        2.91     .329 No_date    7:00  178.02
00873>       [DT= 1.00]  SUM=  05:GdSum         4.81     .532 No_date    7:00  166.76
00874> #-----------------|-------------------------------------------------------|
00875> #-----------------|---------- TOTAL DISCHARGE TO HIGH STREET ---------------|
00876> #-----------------|-------------------------------------------------------|
00877>  001:0109---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00878>      ADD HYD           04:SumB1         17.48    1.015 No_date    9:05  183.82
00879>                     + 05:GdSum          4.81     .532 No_date    7:00  166.76
00880>       [DT= 1.00]  SUM=  03:HighTot      22.29    1.304 No_date    9:02  180.14
00881> #-----------------|-------------------------------------------------------|
00882> #-----------------|------- OUTLET: CAMBRIDGE STREET ------------------------|
00883> #-----------------|-------------------------------------------------------|
00884> #-----------------|---------------- R5 ----------------------------------|
00885> #-----------------|-------------------------------------------------------|
00886>  001:0110---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00887>      DESIGN STANDHYD    06:R5             .16     .018 No_date    7:00  179.72
00888>       [XIMP=.56:TIMP=.70]
00889>       [SLP= .50:DT= 1.00]
00890>       [LOSS= 2 :CN= 84.0]
00891> #-----------------|-------------------------------------------------------|
00892> #------------------------ OUTLET: HOME DEPOT ------------------------------|
00893> #--------------------------- SWM POND ------------------------------------|
00894> #-------------------------- REVISED 201 ----------------------------------|
00895> #-----------------|-------------------------------------------------------|
00896>  001:0111---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00897>      CALIB STANDHYD     07:Rev201         2.50     .295 No_date    7:00  166.65
00898>       [XIMP=.90:TIMP=.90]
00899>       [LOSS= 2 :CN= 84.0]
00900>       [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  40.:MNP=.250:SCP=    .0]
00901>       [Impervious   area: IAimp= 2.00:SLPI=1.00:LGI= 130.:MNI=.013:SCI=    .0]
00902> #-----------------|-------------------------------------------------------|
00903>  001:0112---------------------------------------------------------------------
00904>       FINISH
00905> ---------------------------------------------------------------------------
00906> ***************************************************************************
00907>      WARNINGS / ERRORS / NOTES
00908>      -------------------------
00909>    Simulation ended on 2015-04-09     at 09:26:02
00910> ***************************************************************************
00911>
```

```
2     Metric units
*#*****************************************************************************
*#   Project Name: [West End Commercial, Collingwood]    Project Number: [183-269
*#   Date          : April 9, 2015
*#   Modeller      : [T. MacDougall]
*#   Company       : CF Crozier & Associates Inc.
*#   License #     :  3737016
*#*****************************************************************************
*#    Proposed Conditions - 4 Cell Pond
*#
*#    Rainfall Data:  Storms are the SCS Volumes from MTO Design Chart 1.01(e)
*#    District 5: Owen Sound, Basins West of and including Collingwood.
*#----------------|-------------------------------------------------------------|
START              TZERO=[0.0],   METOUT=[2],   NSTORM=[0],   NRUN=[0]
*%                  [  ] <--storm filename, one per line for NSTORM time
*#----------------|-------------------------------------------------------------|
*#*****************************************************************************
*#******************************** 25mm event *********************************
*#*****************************************************************************
*#----------------|-------------------------------------------------------------|
MASS STORM         PTOTAL=[25](mm), CSDT=[1](min),
                   CURVE_FILENAME=["SCS24HII.mst"]
*#----------------|-------------------------------------------------------------|
*#--------------------------------- OUTLET: HIGH STREET -------------------------|
*#----------------|-------------------------------------------------------------|
*#----------------|------------------ EXTERNAL AREA #1 -------------------------|
*#----------------|-------------------------------------------------------------|
CALIB STANDHYD     ID=[1], NHYD=["EXT1"], DT=[1](min), AREA=[0.6](ha),
                   XIMP=[0.75], TIMP=[0.94], DWF=[0](cms), LOSS=[2],
                   SCS curve number CN=[84],
                   Pervious   surfaces: IAper=[5.0](mm), SLPP=[0.5](%),
                                        LGP=[40](m), MNP=[0.25], SCP=[0](min),
                   Impervious surfaces: IAimp=[2.0](mm), SLPI=[1.0](%),
                                        LGI=[120](m), MNI=[0.013], SCI=[0](min)
                   RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#----------------|-------------------------------------------------------------|
*#----------------|------- SITE AREA CONTRIBUTING TO SWM FACILTY ---------------|
*#----------------|-------------------------------------------------------------|
CALIB STANDHYD     ID=[2], NHYD=["AREA"], DT=[1](min), AREA=[15](ha),
                   XIMP=[0.68], TIMP=[0.85], DWF=[0](cms), LOSS=[2],
                   SCS curve number CN=[84],
                   Pervious   surfaces: IAper=[5](mm), SLPP=[0.5](%),
                                        LGP=[40](m), MNP=[0.25], SCP=[0](min),
                   Impervious surfaces: IAimp=[2](mm), SLPI=[0.5](%),
                                        LGI=[300](m), MNI=[0.013], SCI=[0](min)
                   RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#----------------|-------------------------------------------------------------|
ADD HYD            IDsum=[3], NHYD=["ToPond"], IDs to add=[1+2]
*#----------------|-------------------------------------------------------------|
*#--------------------------------- REGIONAL SWM FACILITY -----------------------|
*#----------------|-------------------------------------------------------------|
ROUTE RESERVOIR    IDout=[1],   NHYD=["StSWM"],   IDin=[3],
                   RDT=[1](min),
                         TABLE of ( OUTFLOW-STORAGE ) values
                                  (cms) - (ha-m)
                               [   0.0 ,  0.0   ]
                               [ 0.019 ,  0.280 ]
                               [ 0.024 ,  0.450 ]
                               [ 0.033 ,  0.935 ]
                               [ 0.037 ,  1.252 ]
                               [ 0.040 ,  1.473 ]
                               [ 0.043 ,  1.755 ]
                               [ 0.222 ,  1.846 ]
                               [ 1.739 ,  2.046 ]
                               [   -1  ,  -1    ]  (max twenty pts)
                         IDovf=[9], NHYDovf=["OVF"]
*#----------------|-------------------------------------------------------------|
*#------------------------------------------ B2 --------------------------------|
*#----------------|-------------------------------------------------------------|
DESIGN STANDHYD    ID=[2], NHYD=["B2"], DT=[1]min, AREA=[0.73](ha),
                   XIMP=[0.68], TIMP=[0.85], DWF=[0](cms), LOSS=[2], CN=[84],
                   SLOPE=[0.5](%), RAINFALL=[ , , , , ](mm/hr), END=-1
*#----------------|-------------------------------------------------------------|
ROUTE RESERVOIR    IDout=[3],   NHYD=["StorB2"],   IDin=[2],
                   RDT=[1](min),
                         TABLE of ( OUTFLOW-STORAGE ) values
                                  (cms) - (ha-m)
                               [    0.0 ,  0.0   ]
                               [   0.020,  0.042 ]
                               [   -1   ,  -1    ]  (max twenty pts)
                         IDovf=[9], NHYDovf=["OVF"]
*#----------------|-------------------------------------------------------------|
ADD HYD            IDsum=[4], NHYD=["SumB2"], IDs to add=[1+3]
*#----------------|-------------------------------------------------------------|
*#------------------------------------------ C ---------------------------------|
*#----------------|-------------------------------------------------------------|
DESIGN STANDHYD    ID=[3], NHYD=["C"], DT=[1]min, AREA=[0.68](ha),
                   XIMP=[0.68], TIMP=[0.85], DWF=[0](cms), LOSS=[2], CN=[84],
                   SLOPE=[1.0](%), RAINFALL=[ , , , , ](mm/hr), END=-1
*%----------------|-------------------------------------------------------------|
ROUTE RESERVOIR    IDout=[2],   NHYD=["StC"],   IDin=[3],
                   RDT=[1](min),
                         TABLE of ( OUTFLOW-STORAGE ) values
                                  (cms) - (ha-m)
                               [    0.0 ,  0.0   ]
                               [  0.020 ,  0.038 ]
                               [   -1   ,  -1    ]  (max twenty pts)
                         IDovf=[9], NHYDovf=["OVF"]
*#----------------|-------------------------------------------------------------|
ADD HYD            IDsum=[1], NHYD=["SumC"], IDs to add=[2+4]
*#----------------|-------------------------------------------------------------|
*#------------------------------------------ R4 --------------------------------|
*#----------------|-------------------------------------------------------------|
DESIGN STANDHYD    ID=[2], NHYD=["R4"], DT=[1]min, AREA=[0.48](ha),
                   XIMP=[0.56], TIMP=[0.70], DWF=[0](cms), LOSS=[2], CN=[84],
                   SLOPE=[0.5](%), RAINFALL=[ , , , , ](mm/hr), END=-1
*#----------------|-------------------------------------------------------------|
ROUTE RESERVOIR    IDout=[4],   NHYD=["StR4"],   IDin=[2],
                   RDT=[1](min),
                         TABLE of ( OUTFLOW-STORAGE ) values
                                  (cms) - (ha-m)
                               [   0.0 ,  0.0  ]
                               [  0.035,  0.020]
                               [   -1  ,  -1   ]  (max twenty pts)
                         IDovf=[9], NHYDovf=["OVF"]
*#----------------|-------------------------------------------------------------|
*#----------------|---- CONTROLLED DISCHARGE TO HIGH STREET FROM SITE ---------|
*#----------------|-------------------------------------------------------------|
ADD HYD            IDsum=[3], NHYD=["HighSt"], IDs to add=[1+4]
*#----------------|-------------------------------------------------------------|
*#------------------------------------------ B1 --------------------------------|
*#----------------|-------------------------------------------------------------|
CALIB NASHYD       ID=[2], NHYD=["B1"], DT=[1]min, AREA=[0.33](ha),
                   DWF=[0](cms),  CN/C=[84], IA=[5.0](mm),
                   N=[3], TP=[0.17]hrs,
                   RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#----------------|-------------------------------------------------------------|
*#----------------|---- TOTAL DISCHARGE TO HIGH STREET FROM SITE --------------|
*#----------------|-------------------------------------------------------------|
ADD HYD            IDsum=[4], NHYD=["SumB1"], IDs to add=[2+3]
*#----------------|-------------------------------------------------------------|
*#----------------|----------------- EXTERNAL AREA #2 --------------------------|
*#----------------|-------------------------------------------------------------|
CALIB NASHYD       ID=[1], NHYD=["EXT2"], DT=[1]min, AREA=[1.9](ha),
                   DWF=[0](cms),  CN/C=[89], IA=[3.9](mm),
                   N=[3], TP=[0.19]hrs,
                   RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#----------------|-------------------------------------------------------------|
*#----------------|----------------- -GOODALL SITE- ----------------------------|
*#----------------|-------------------------------------------------------------|
CALIB STANDHYD     ID=[2], NHYD=["Goodall"], DT=[1](min), AREA=[2.01](ha),
                   XIMP=[0.56], TIMP=[0.70], DWF=[0](cms), LOSS=[2],
                   SCS curve number CN=[84],
                   Pervious   surfaces: IAper=[5.0](mm), SLPP=[0.5](%),
                                        LGP=[40](m), MNP=[0.25], SCP=[0](min),
                   Impervious surfaces: IAimp=[2.0](mm), SLPI=[0.5](%),
                                        LGI=[240](m), MNI=[0.013], SCI=[0](min)
                   RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#----------------|-------------------------------------------------------------|
ADD HYD            IDsum=[5], NHYD=["GdSum"], IDs to add=[1+2]
*#----------------|-------------------------------------------------------------|
*#----------------|--------- TOTAL DISCHARGE TO HIGH STREET --------------------|
*#----------------|-------------------------------------------------------------|
ADD HYD            IDsum=[3], NHYD=["HighTot"], IDs to add=[4+5]
*#----------------|-------------------------------------------------------------|
*#------------------------------ OUTLET: CAMBRIDGE STREET -----------------------|
*#----------------|-------------------------------------------------------------|
*#------------------------------------------ R5 --------------------------------|
*#----------------|-------------------------------------------------------------|
DESIGN STANDHYD    ID=[6], NHYD=["R5"], DT=[1]min, AREA=[0.16](ha),
                   XIMP=[0.56], TIMP=[0.70], DWF=[0](cms), LOSS=[2], CN=[84],
                   SLOPE=[0.5](%), RAINFALL=[ , , , , ](mm/hr), END=-1
*#----------------|-------------------------------------------------------------|
*#------------------------------ OUTLET: HOME DEPOT -----------------------------|
*#-------------------------------- SWM POND -------------------------------------|
*#-------------------------------- REVISED 201 ----------------------------------|
*#----------------|-------------------------------------------------------------|
CALIB STANDHYD     ID=[7], NHYD=["Rev201"], DT=[1](min), AREA=[2.50](ha),
                   XIMP=[0.9], TIMP=[0.9], DWF=[0](cms), LOSS=[2],
                   SCS curve number CN=[84],
                   Pervious   surfaces: IAper=[5.0](mm), SLPP=[2](%),
                                        LGP=[40](m), MNP=[0.25], SCP=[0](min),
                   Impervious surfaces: IAimp=[2](mm), SLPI=[1](%),
                                        LGI=[130](m), MNI=[0.013], SCI=[0](min)
                   RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#----------------|-------------------------------------------------------------|
*#*****************************************************************************
*#*************************** 24 hour SCS 5-year ******************************
*#*****************************************************************************
*%----------------|-------------------------------------------------------------|
MASS STORM         PTOTAL=[62.4](mm), CSDT=[1](min),
                   CURVE_FILENAME=["SCS24HII.mst"]
*#----------------|-------------------------------------------------------------|
*#--------------------------------- OUTLET: HIGH STREET -------------------------|
*#----------------|-------------------------------------------------------------|
*#----------------|------------------ EXTERNAL AREA #1 -------------------------|
*#----------------|-------------------------------------------------------------|
CALIB STANDHYD     ID=[1], NHYD=["EXT1"], DT=[1](min), AREA=[0.6](ha),
                   XIMP=[0.75], TIMP=[0.94], DWF=[0](cms), LOSS=[2],
                   SCS curve number CN=[84],
                   Pervious   surfaces: IAper=[5.0](mm), SLPP=[0.5](%),
                                        LGP=[40](m), MNP=[0.25], SCP=[0](min),
                   Impervious surfaces: IAimp=[2.0](mm), SLPI=[1.0](%),
                                        LGI=[120](m), MNI=[0.013], SCI=[0](min)
                   RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#----------------|-------------------------------------------------------------|
*#----------------|------- SITE AREA CONTRIBUTING TO SWM FACILTY ---------------|
*#----------------|-------------------------------------------------------------|
CALIB STANDHYD     ID=[2], NHYD=["AREA"], DT=[1](min), AREA=[15](ha),
                   XIMP=[0.68], TIMP=[0.85], DWF=[0](cms), LOSS=[2],
                   SCS curve number CN=[84],
                   Pervious   surfaces: IAper=[5.0](mm), SLPP=[0.5](%),
                                        LGP=[40](m), MNP=[0.25], SCP=[0](min),
                   Impervious surfaces: IAimp=[2](mm), SLPI=[0.5](%),
                                        LGI=[300](m), MNI=[0.013], SCI=[0](min)
                   RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#----------------|-------------------------------------------------------------|
ADD HYD            IDsum=[3], NHYD=["ToPond"], IDs to add=[1+2]
*#----------------|-------------------------------------------------------------|
*#--------------------------------- REGIONAL SWM FACILITY -----------------------|
*#----------------|-------------------------------------------------------------|
ROUTE RESERVOIR    IDout=[1],   NHYD=["StSWM"],   IDin=[3],
                   RDT=[1](min),
                         TABLE of ( OUTFLOW-STORAGE ) values
                                  (cms) - (ha-m)
                               [   0.0 ,  0.0   ]
                               [ 0.019 ,  0.280 ]
                               [ 0.024 ,  0.450 ]
                               [ 0.033 ,  0.935 ]
                               [ 0.037 ,  1.252 ]
                               [ 0.040 ,  1.473 ]
                               [ 0.043 ,  1.755 ]
                               [ 0.222 ,  1.846 ]
                               [ 1.739 ,  2.046 ]
                               [   -1  ,  -1    ]  (max twenty pts)
                         IDovf=[9], NHYDovf=["OVF"]
*#----------------|-------------------------------------------------------------|
*#------------------------------------------ B2 --------------------------------|
*#----------------|-------------------------------------------------------------|
DESIGN STANDHYD    ID=[2], NHYD=["B2"], DT=[1]min, AREA=[0.73](ha),
                   XIMP=[0.68], TIMP=[0.85], DWF=[0](cms), LOSS=[2], CN=[84],
                   SLOPE=[0.5](%), RAINFALL=[ , , , , ](mm/hr), END=-1
*#----------------|-------------------------------------------------------------|
ROUTE RESERVOIR    IDout=[3],   NHYD=["StorB2"],   IDin=[2],
                   RDT=[1](min),
                         TABLE of ( OUTFLOW-STORAGE ) values
                                  (cms) - (ha-m)
                               [    0.0 ,  0.0   ]
                               [   0.020,  0.042 ]
                               [   -1   ,  -1    ]  (max twenty pts)
                         IDovf=[9], NHYDovf=["OVF"]
*#----------------|-------------------------------------------------------------|
ADD HYD            IDsum=[4], NHYD=["SumB2"], IDs to add=[1+3]
*#----------------|-------------------------------------------------------------|
*#------------------------------------------ C ---------------------------------|
*#----------------|-------------------------------------------------------------|
DESIGN STANDHYD    ID=[3], NHYD=["C"], DT=[1]min, AREA=[0.68](ha),
                   XIMP=[0.68], TIMP=[0.85], DWF=[0](cms), LOSS=[2], CN=[84],
                   SLOPE=[1.0](%), RAINFALL=[ , , , , ](mm/hr), END=-1
*%----------------|-------------------------------------------------------------|
ROUTE RESERVOIR    IDout=[2],   NHYD=["StC"],   IDin=[3],
                   RDT=[1](min),
                         TABLE of ( OUTFLOW-STORAGE ) values
                                  (cms) - (ha-m)
                               [    0.0 ,  0.0   ]
                               [  0.020 ,  0.038 ]
                               [   -1   ,  -1    ]  (max twenty pts)
                         IDovf=[9], NHYDovf=["OVF"]
*#----------------|-------------------------------------------------------------|
ADD HYD            IDsum=[1], NHYD=["SumC"], IDs to add=[2+4]
*#----------------|-------------------------------------------------------------|
*#------------------------------------------ R4 --------------------------------|
*#----------------|-------------------------------------------------------------|
DESIGN STANDHYD    ID=[2], NHYD=["R4"], DT=[1]min, AREA=[0.48](ha),
                   XIMP=[0.56], TIMP=[0.70], DWF=[0](cms), LOSS=[2], CN=[84],
                   SLOPE=[0.5](%), RAINFALL=[ , , , , ](mm/hr), END=-1
*#----------------|-------------------------------------------------------------|
ROUTE RESERVOIR    IDout=[4],   NHYD=["StR4"],   IDin=[2],
                   RDT=[1](min),
                         TABLE of ( OUTFLOW-STORAGE ) values
```

```
                                  (cms) - (ha-m)
                                [   0.0 ,   0.0  ]
                                [  0.035,  0.020]
                                [   -1  ,   -1   ]  (max twenty pts)
                          IDovf=[9], NHYDovf=["OVF"]
*#-----------------|----------------------------------------------------------|
*#-----------------|---- CONTROLLED DISCHARGE TO HIGH STREET FROM SITE --------|
*#-----------------|----------------------------------------------------------|
ADD HYD             IDsum=[3], NHYD=["HighSt"], IDs to add=[1+4]
*#-----------------|----------------------------------------------------------|
*#-------------------------------------- B1 ------------------------------------|
*#-----------------|----------------------------------------------------------|
CALIB NASHYD        ID=[2], NHYD=["B1"], DT=[1]min, AREA=[0.33](ha),
                    DWF=[0](cms),  CN/C=[84], IA=[5.0](mm),
                    N=[3], TP=[0.17]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|----------------------------------------------------------|
*#-----------------|---- TOTAL DISCHARGE TO HIGH STREET FROM SITE ------------|
*#-----------------|----------------------------------------------------------|
ADD HYD             IDsum=[4], NHYD=["SumB1"], IDs to add=[2+3]
*#-----------------|----------------------------------------------------------|
*#-----------------|--------------- EXTERNAL AREA #2 -------------------------|
*#-----------------|----------------------------------------------------------|
CALIB NASHYD        ID=[1], NHYD=["EXT2"], DT=[1]min, AREA=[1.9](ha),
                    DWF=[0](cms),  CN/C=[84], IA=[5](mm),
                    N=[3], TP=[0.19]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|----------------------------------------------------------|
*#-----------------|---------------GOODALL SITE-------------------------------|
*#-----------------|----------------------------------------------------------|
CALIB STANDHYD      ID=[2], NHYD=["Goodall"], DT=[1](min), AREA=[2.91](ha),
                    XIMP=[0.56], TIMP=[0.70], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[84],
                    Pervious   surfaces: IAper=[5.0](mm), SLPP=[0.5](%),
                                         LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2.0](mm), SLPI=[0.5](%),
                                         LGI=[240](m), MNI=[0.013], SCI=[0](min)
                    RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|----------------------------------------------------------|
ADD HYD             IDsum=[5], NHYD=["GdSum"], IDs to add=[1+2]
*#-----------------|----------------------------------------------------------|
*#-----------------|--------- TOTAL DISCHARGE TO HIGH STREET -----------------|
*#-----------------|----------------------------------------------------------|
ADD HYD             IDsum=[3], NHYD=["HighTot"], IDs to add=[4+5]
*#-----------------|----------------------------------------------------------|
*#------------------------------- OUTLET: CAMBRIDGE STREET --------------------|
*#-----------------|----------------------------------------------------------|
*#-------------------------------------- R5 ------------------------------------|
*#-----------------|----------------------------------------------------------|
DESIGN STANDHYD     ID=[6], NHYD=["R5"], DT=[1]min, AREA=[0.16](ha),
                    XIMP=[0.56], TIMP=[0.70], DWF=[0](cms), LOSS=[2], CN=[84],
                    SLOPE=[0.5](%), RAINFALL=[ , , , , ](mm/hr), END=-1
*#-----------------|----------------------------------------------------------|
*#------------------------------- OUTLET: HOME DEPOT --------------------------|
*#----------------------------------- SWM POND --------------------------------|
*#---------------------------------- REVISED 201 ------------------------------|
*#-----------------|----------------------------------------------------------|
CALIB STANDHYD      ID=[7], NHYD=["Rev201"], DT=[1](min), AREA=[2.50](ha),
                    XIMP=[0.9], TIMP=[0.9], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[84],
                    Pervious   surfaces: IAper=[5](mm), SLPP=[2](%),
                                         LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2](mm), SLPI=[1](%),
                                         LGI=[130](m), MNI=[0.013], SCI=[0](min)
                    RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|----------------------------------------------------------|
*#******************************************************************************
*#*************************** 24 hour SCS 25-year *******************************
*#******************************************************************************
*%-----------------|----------------------------------------------------------|
MASS STORM          PTOTAL=[86.4](mm), CSDT=[1](min),
                    CURVE_FILENAME=["SCS24HII.mst"]
*#-----------------|----------------------------------------------------------|
*#----------------------------------- OUTLET: HIGH STREET ---------------------|
*#-----------------|----------------------------------------------------------|
*#-----------------|--------------- EXTERNAL AREA #1 -------------------------|
*#-----------------|----------------------------------------------------------|
CALIB STANDHYD      ID=[1], NHYD=["EXT1"], DT=[1](min), AREA=[0.6](ha),
                    XIMP=[0.75], TIMP=[0.94], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[84],
                    Pervious   surfaces: IAper=[5.0](mm), SLPP=[0.5](%),
                                         LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2.0](mm), SLPI=[1.0](%),
                                         LGI=[120](m), MNI=[0.013], SCI=[0](min)
                    RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|----------------------------------------------------------|
*#-----------------|------- SITE AREA CONTRIBUTING TO SWM FACILTY ------------|
*#-----------------|----------------------------------------------------------|
CALIB STANDHYD      ID=[2], NHYD=["AREA"], DT=[1](min), AREA=[15](ha),
                    XIMP=[0.68], TIMP=[0.85], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[84],
                    Pervious   surfaces: IAper=[5.0](mm), SLPP=[0.5](%),
                                         LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2](mm), SLPI=[0.5](%),
                                         LGI=[300](m), MNI=[0.013], SCI=[0](min)
                    RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|----------------------------------------------------------|
ADD HYD             IDsum=[3], NHYD=["ToPond"], IDs to add=[1+2]
*#-----------------|----------------------------------------------------------|
*#---------------------------------- REGIONAL SWM FACILITY --------------------|
*#-----------------|----------------------------------------------------------|
ROUTE RESERVOIR     IDout=[1],   NHYD=["StSWM"],  IDin=[3],
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                  (cms) - (ha-m)
                                [   0.0 ,  0.0   ]
                                [ 0.019 ,  0.280 ]
                                [ 0.024 ,  0.450 ]
                                [ 0.031 ,  0.935 ]
                                [ 0.037 ,  1.252 ]
                                [ 0.040 ,  1.473 ]
                                [ 0.043 ,  1.755 ]
                                [ 0.222 ,  1.846 ]
                                [ 1.739 ,  2.046 ]
                                [   -1  ,   -1   ]  (max twenty pts)
                          IDovf=[9], NHYDovf=["OVF"]
*#-----------------|----------------------------------------------------------|
*#-------------------------------------- B2 ------------------------------------|
*#-----------------|----------------------------------------------------------|
DESIGN STANDHYD     ID=[2], NHYD=["B2"], DT=[1]min, AREA=[0.73](ha),
                    XIMP=[0.68], TIMP=[0.85], DWF=[0](cms), LOSS=[2], CN=[84],
                    SLOPE=[0.5](%), RAINFALL=[ , , , , ](mm/hr), END=-1
*#-----------------|----------------------------------------------------------|
ROUTE RESERVOIR     IDout=[3],   NHYD=["StorB2"],  IDin=[2],
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                  (cms) - (ha-m)
                                [   0.0 ,  0.0   ]
                                [  0.020,  0.042 ]
                                [   -1  ,   -1   ]  (max twenty pts)
                          IDovf=[9], NHYDovf=["OVF"]
*#-----------------|----------------------------------------------------------|
ADD HYD             IDsum=[4], NHYD=["SumB2"], IDs to add=[1+3]
*#-----------------|----------------------------------------------------------|
*#-------------------------------------- C -------------------------------------|
*#-----------------|----------------------------------------------------------|
DESIGN STANDHYD     ID=[3], NHYD=["C"], DT=[1]min, AREA=[0.68](ha),
                    XIMP=[0.68], TIMP=[0.85], DWF=[0](cms), LOSS=[2], CN=[84],
                    SLOPE=[1.0](%), RAINFALL=[ , , , , ](mm/hr), END=-1
*%-----------------|----------------------------------------------------------|
ROUTE RESERVOIR     IDout=[2],   NHYD=["StC"],  IDin=[3],
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                  (cms) - (ha-m)
                                [   0.0 ,  0.0   ]
                                [  0.020 , 0.038 ]
                                [   -1  ,   -1   ]  (max twenty pts)
                          IDovf=[9], NHYDovf=["OVF"]
*#-----------------|----------------------------------------------------------|
ADD HYD             IDsum=[1], NHYD=["SumC"], IDs to add=[2+4]
*#-----------------|----------------------------------------------------------|
*#-------------------------------------- R4 ------------------------------------|
*#-----------------|----------------------------------------------------------|
DESIGN STANDHYD     ID=[2], NHYD=["R4"], DT=[1]min, AREA=[0.48](ha),
                    XIMP=[0.56], TIMP=[0.70], DWF=[0](cms), LOSS=[2], CN=[84],
                    SLOPE=[0.5](%), RAINFALL=[ , , , , ](mm/hr), END=-1
*#-----------------|----------------------------------------------------------|
ROUTE RESERVOIR     IDout=[4],   NHYD=["StR4"],  IDin=[2],
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                  (cms) - (ha-m)
                                [   0.0 ,  0.0  ]
                                [  0.035,  0.020]
                                [   -1  ,   -1  ]  (max twenty pts)
                          IDovf=[9], NHYDovf=["OVF"]
*#-----------------|----------------------------------------------------------|
*#-----------------|---- CONTROLLED DISCHARGE TO HIGH STREET FROM SITE --------|
*#-----------------|----------------------------------------------------------|
ADD HYD             IDsum=[3], NHYD=["HighSt"], IDs to add=[1+4]
*#-----------------|----------------------------------------------------------|
*#-------------------------------------- B1 ------------------------------------|
*#-----------------|----------------------------------------------------------|
CALIB NASHYD        ID=[2], NHYD=["B1"], DT=[1]min, AREA=[0.33](ha),
                    DWF=[0](cms),  CN/C=[84], IA=[5.0](mm),
                    N=[3], TP=[0.17]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|----------------------------------------------------------|
*#-----------------|---- TOTAL DISCHARGE TO HIGH STREET FROM SITE ------------|
*#-----------------|----------------------------------------------------------|
ADD HYD             IDsum=[4], NHYD=["SumB1"], IDs to add=[2+3]
*#-----------------|----------------------------------------------------------|
*#-----------------|--------------- EXTERNAL AREA #2 -------------------------|
*#-----------------|----------------------------------------------------------|
CALIB NASHYD        ID=[1], NHYD=["EXT2"], DT=[1]min, AREA=[1.9](ha),
                    DWF=[0](cms),  CN/C=[84], IA=[5.0](mm),
                    N=[3], TP=[0.19]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|----------------------------------------------------------|
*#-----------------|---------------GOODALL SITE-------------------------------|
*#-----------------|----------------------------------------------------------|
CALIB STANDHYD      ID=[2], NHYD=["Goodall"], DT=[1](min), AREA=[2.91](ha),
                    XIMP=[0.56], TIMP=[0.70], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[84],
                    Pervious   surfaces: IAper=[5.0](mm), SLPP=[0.5](%),
                                         LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2.0](mm), SLPI=[0.5](%),
                                         LGI=[240](m), MNI=[0.013], SCI=[0](min)
                    RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|----------------------------------------------------------|
ADD HYD             IDsum=[5], NHYD=["GdSum"], IDs to add=[1+2]
*#-----------------|----------------------------------------------------------|
*#-----------------|--------- TOTAL DISCHARGE TO HIGH STREET -----------------|
*#-----------------|----------------------------------------------------------|
ADD HYD             IDsum=[3], NHYD=["HighTot"], IDs to add=[4+5]
*#-----------------|----------------------------------------------------------|
*#------------------------------- OUTLET: CAMBRIDGE STREET --------------------|
*#-----------------|----------------------------------------------------------|
*#-------------------------------------- R5 ------------------------------------|
*#-----------------|----------------------------------------------------------|
DESIGN STANDHYD     ID=[6], NHYD=["R5"], DT=[1]min, AREA=[0.16](ha),
                    XIMP=[0.56], TIMP=[0.70], DWF=[0](cms), LOSS=[2], CN=[84],
                    SLOPE=[0.5](%), RAINFALL=[ , , , , ](mm/hr), END=-1
*#-----------------|----------------------------------------------------------|
*#------------------------------- OUTLET: HOME DEPOT --------------------------|
*#----------------------------------- SWM POND --------------------------------|
*#---------------------------------- REVISED 201 ------------------------------|
*#-----------------|----------------------------------------------------------|
CALIB STANDHYD      ID=[7], NHYD=["Rev201"], DT=[1](min), AREA=[2.50](ha),
                    XIMP=[0.9], TIMP=[0.9], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[84],
                    Pervious   surfaces: IAper=[5.0](mm), SLPP=[2](%),
                                         LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2](mm), SLPI=[1](%),
                                         LGI=[130](m), MNI=[0.013], SCI=[0](min)
                    RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|----------------------------------------------------------|
*#******************************************************************************
*#------------------------------- 24 hour SCS 100-year --------------------------|
*#******************************************************************************
*#-----------------|----------------------------------------------------------|
MASS STORM          PTOTAL=[108.0](mm), CSDT=[12](min),
                    CURVE_FILENAME=["SCS24HII.MST"]
*#-----------------|----------------------------------------------------------|
*#----------------------------------- OUTLET: HIGH STREET ---------------------|
*#-----------------|----------------------------------------------------------|
*#-----------------|--------------- EXTERNAL AREA #1 -------------------------|
*#-----------------|----------------------------------------------------------|
CALIB STANDHYD      ID=[1], NHYD=["EXT1"], DT=[1](min), AREA=[0.6](ha),
                    XIMP=[0.75], TIMP=[0.94], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[84],
                    Pervious   surfaces: IAper=[5.0](mm), SLPP=[0.5](%),
                                         LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2.0](mm), SLPI=[1.0](%),
                                         LGI=[120](m), MNI=[0.013], SCI=[0](min)
                    RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|----------------------------------------------------------|
*#-----------------|------- SITE AREA CONTRIBUTING TO SWM FACILTY ------------|
*#-----------------|----------------------------------------------------------|
CALIB STANDHYD      ID=[2], NHYD=["AREA"], DT=[1](min), AREA=[15](ha),
                    XIMP=[0.68], TIMP=[0.85], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[84],
                    Pervious   surfaces: IAper=[5.0](mm), SLPP=[0.5](%),
                                         LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2](mm), SLPI=[0.5](%),
                                         LGI=[300](m), MNI=[0.013], SCI=[0](min)
                    RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END= 1
*#-----------------|----------------------------------------------------------|
ADD HYD             IDsum=[3], NHYD=["ToPond"], IDs to add=[1+2]
*#-----------------|----------------------------------------------------------|
*#---------------------------------- REGIONAL SWM FACILITY --------------------|
*#-----------------|----------------------------------------------------------|
ROUTE RESERVOIR     IDout=[1],   NHYD=["StSWM"],  IDin=[3],
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                  (cms) - (ha-m)
                                [   0.0 ,  0.0   ]
                                [ 0.019 ,  0.280 ]
                                [ 0.024 ,  0.450 ]
                                [ 0.033 ,  0.935 ]
                                [ 0.037 ,  1.252 ]
```

```
                                        [ 0.040 ,  1.473 ]
                                        [ 0.043 ,  1.755 ]
                                        [ 0.222 ,  1.846 ]
                                        [ 1.739 ,  2.046 ]
                                        [   -1  ,   -1   ]  (max twenty pts)
                              IDovf=[9], NHYDovf=["OVF"]
*#-------------------|--------------------------------------------------------------|
*#---------------------------------------- B2 --------------------------------------|
*#-------------------|--------------------------------------------------------------|
DESIGN STANDHYD       ID=[2], NHYD=["B2"], DT=[1]min, AREA=[0.73](ha),
                      XIMP=[0.68], TIMP=[0.85], DWF=[0](cms), LOSS=[2], CN=[84],
                      SLOPE=[0.5](%), RAINFALL=[ , , , , ](mm/hr), END=-1
*#-------------------|--------------------------------------------------------------|
ROUTE RESERVOIR       IDout=[3],   NHYD=["StorB2"],   IDin=[2],
                      RDT=[1](min),
                              TABLE of ( OUTFLOW-STORAGE ) values
                                    (cms) - (ha-m)
                                        [   0.0 ,   0.0  ]
                                        [ 0.020,  0.042  ]
                                        [  -1   ,  -1    ]  (max twenty pts)
                              IDovf=[9], NHYDovf=["OVF"]
*#-------------------|--------------------------------------------------------------|
ADD HYD               IDsum=[4], NHYD=["SumB2"], IDs to add=[1+3]
*#-------------------|--------------------------------------------------------------|
*#---------------------------------------- C ---------------------------------------|
*#-------------------|--------------------------------------------------------------|
DESIGN STANDHYD       ID=[3], NHYD=["C"], DT=[1]min, AREA=[0.68](ha),
                      XIMP=[0.68], TIMP=[0.85], DWF=[0](cms), LOSS=[2], CN=[84],
                      SLOPE=[1.0](%), RAINFALL=[ , , , , ](mm/hr), END=-1
*%-------------------|--------------------------------------------------------------|
ROUTE RESERVOIR       IDout=[2],   NHYD=["StC"],   IDin=[3],
                      RDT=[1](min),
                              TABLE of ( OUTFLOW-STORAGE ) values
                                    (cms) - (ha-m)
                                        [   0.0 ,   0.0  ]
                                        [ 0.020 ,  0.038 ]
                                        [  -1   ,  -1    ]  (max twenty pts)
                              IDovf=[9], NHYDovf=["OVF"]
*#-------------------|--------------------------------------------------------------|
ADD HYD               IDsum=[1], NHYD=["SumC"], IDs to add=[2+4]
*#-------------------|--------------------------------------------------------------|
*#---------------------------------------- R4 --------------------------------------|
*#-------------------|--------------------------------------------------------------|
DESIGN STANDHYD       ID=[2], NHYD=["R4"], DT=[1]min, AREA=[0.48](ha),
                      XIMP=[0.56], TIMP=[0.70], DWF=[0](cms), LOSS=[2], CN=[84],
                      SLOPE=[0.5](%), RAINFALL=[ , , , , ](mm/hr), END=-1
*#-------------------|--------------------------------------------------------------|
ROUTE RESERVOIR       IDout=[4],   NHYD=["StR4"],   IDin=[2],
                      RDT=[1](min),
                              TABLE of ( OUTFLOW-STORAGE ) values
                                    (cms) - (ha-m)
                                        [   0.0 ,   0.0  ]
                                        [ 0.035,  0.020]
                                        [  -1   ,  -1    ]  (max twenty pts)
                              IDovf=[9], NHYDovf=["OVF"]
*#-------------------|--------------------------------------------------------------|
*#-------------------|---- CONTROLLED DISCHARGE TO HIGH STREET FROM SITE -----------|
*#-------------------|--------------------------------------------------------------|
ADD HYD               IDsum=[3], NHYD=["HighSt"], IDs to add=[1+4]
*#-------------------|--------------------------------------------------------------|
*#---------------------------------------- B1 --------------------------------------|
*#-------------------|--------------------------------------------------------------|
CALIB NASHYD          ID=[2], NHYD=["B1"], DT=[1]min, AREA=[0.33](ha),
                      DWF=[0](cms),  CN/C=[84], IA=[5.0](mm),
                      N=[3], TP=[0.17]hrs,
                      RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-------------------|--------------------------------------------------------------|
*#-------------------|---- TOTAL DISCHARGE TO HIGH STREET FROM SITE ----------------|
*#-------------------|--------------------------------------------------------------|
ADD HYD               IDsum=[4], NHYD=["SumB1"], IDs to add=[2+3]
*#-------------------|--------------------------------------------------------------|
*#-------------------|---------------- EXTERNAL AREA #2 ----------------------------|
*#-------------------|--------------------------------------------------------------|
CALIB NASHYD          ID=[1], NHYD=["EXT2"], DT=[1]min, AREA=[1.9](ha),
                      DWF=[0](cms),  CN/C=[84], IA=[5](mm),
                      N=[3], TP=[0.19]hrs,
                      RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-------------------|--------------------------------------------------------------|
*#-------------------|--------------- GOODALL SITE----------------------------------|
*#-------------------|--------------------------------------------------------------|
CALIB STANDHYD        ID=[2], NHYD=["Goodall"], DT=[1](min), AREA=[2.91](ha),
                      XIMP=[0.56], TIMP=[0.70], DWF=[0](cms), LOSS=[2],
                      SCS curve number CN=[84],
                      Pervious   surfaces: IAper=[5.0](mm), SLPP=[0.5](%),
                                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                      Impervious surfaces: IAimp=[2.0](mm), SLPI=[0.5](%),
                                           LGI=[240](m), MNI=[0.013], SCI=[0](min)
                      RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-------------------|--------------------------------------------------------------|
ADD HYD               IDsum=[5], NHYD=["GdSum"], IDs to add=[1+2]
*#-------------------|--------------------------------------------------------------|
*#-------------------|--------- TOTAL DISCHARGE TO HIGH STREET ---------------------|
*#-------------------|--------------------------------------------------------------|
ADD HYD               IDsum=[3], NHYD=["HighTot"], IDs to add=[4+5]
*#-------------------|--------------------------------------------------------------|
*#----------------------------------- OUTLET: CAMBRIDGE STREET ---------------------|
*#-------------------|--------------------------------------------------------------|
*#---------------------------------------- R5 --------------------------------------|
*#-------------------|--------------------------------------------------------------|
DESIGN STANDHYD       ID=[6], NHYD=["R5"], DT=[1]min, AREA=[0.16](ha),
                      XIMP=[0.56], TIMP=[0.70], DWF=[0](cms), LOSS=[2], CN=[84],
                      SLOPE=[0.5](%), RAINFALL=[ , , , , ](mm/hr), END=-1
*#-------------------|--------------------------------------------------------------|
*#---------------------------------- OUTLET: HOME DEPOT ----------------------------|
*#-------------------------------------------- SWM POND ----------------------------|
*#-------------------------------------------- REVISED 201 -------------------------|
*#-------------------|--------------------------------------------------------------|
CALIB STANDHYD        ID=[7], NHYD=["Rev201"], DT=[1](min), AREA=[2.50](ha),
                      XIMP=[0.9], TIMP=[0.9], DWF=[0](cms), LOSS=[2],
                      SCS curve number CN=[84],
                      Pervious   surfaces: IAper=[5.0](mm), SLPP=[2](%),
                                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                      Impervious surfaces: IAimp=[2](mm), SLPI=[1](%),
                                           LGI=[130](m), MNI=[0.013], SCI=[0](min)
                      RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-------------------|--------------------------------------------------------------|
*#**********************************************************************************
*#--------------------------------------- REGIONAL EVENT ---------------------------|
*#**********************************************************************************
*#-------------------|--------------------------------------------------------------|
READ STORM            STORM_FILENAME=["tim.STM"]
*#-------------------|--------------------------------------------------------------|
*#------------------------------------------ OUTLET: HIGH STREET -------------------|
*#-------------------|--------------------------------------------------------------|
*#-------------------|------------------ EXTERNAL AREA #1 ---------------------------|
*#-------------------|--------------------------------------------------------------|
CALIB STANDHYD        ID=[1], NHYD=["EXT1"], DT=[1](min), AREA=[0.6](ha),
                      XIMP=[0.75], TIMP=[0.94], DWF=[0](cms), LOSS=[2],
                      SCS curve number CN=[84],
                      Pervious   surfaces: IAper=[5.0](mm), SLPP=[0.5](%),
                                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                      Impervious surfaces: IAimp=[2.0](mm), SLPI=[1.0](%),
                                           LGI=[120](m), MNI=[0.013], SCI=[0](min)
                      RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-------------------|--------------------------------------------------------------|
*#-------------------|------- SITE AREA CONTRIBUTING TO SWM FACILTY ----------------|
*#-------------------|--------------------------------------------------------------|
CALIB STANDHYD        ID=[2], NHYD=["AREA"], DT=[1](min), AREA=[15](ha),
                      XIMP=[0.68], TIMP=[0.85], DWF=[0](cms), LOSS=[2],
                      SCS curve number CN=[84],
                      Pervious   surfaces: IAper=[5.0](mm), SLPP=[0.5](%),
                                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                      Impervious surfaces: IAimp=[2](mm), SLPI=[0.5](%),
                                           LGI=[300](m), MNI=[0.013], SCI=[0](min)
                      RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-------------------|--------------------------------------------------------------|
ADD HYD               IDsum=[3], NHYD=["ToPond"], IDs to add=[1+2]
*#-------------------|--------------------------------------------------------------|
*#------------------------------------ REGIONAL SWM FACILITY -----------------------|
*#-------------------|--------------------------------------------------------------|
ROUTE RESERVOIR       IDout=[1],   NHYD=["StSWM"],   IDin=[3],
                      RDT=[1](min),
                              TABLE of ( OUTFLOW-STORAGE ) values
                                    (cms) - (ha-m)
                                        [   0.0 ,   0.0  ]
                                        [ 0.019 ,  0.280 ]
                                        [ 0.024 ,  0.450 ]
                                        [ 0.033 ,  0.935 ]
                                        [ 0.037 ,  1.252 ]
                                        [ 0.040 ,  1.473 ]
                                        [ 0.043 ,  1.755 ]
                                        [ 0.222 ,  1.846 ]
                                        [ 1.739 ,  2.046 ]
                                        [   -1  ,   -1   ]  (max twenty pts)
                              IDovf=[9], NHYDovf=["OVF"]
*#-------------------|--------------------------------------------------------------|
*#---------------------------------------- B2 --------------------------------------|
*#-------------------|--------------------------------------------------------------|
DESIGN STANDHYD       ID=[2], NHYD=["B2"], DT=[1]min, AREA=[0.73](ha),
                      XIMP=[0.68], TIMP=[0.85], DWF=[0](cms), LOSS=[2], CN=[84],
                      SLOPE=[0.5](%), RAINFALL=[ , , , , ](mm/hr), END=-1
*#-------------------|--------------------------------------------------------------|
ROUTE RESERVOIR       IDout=[3],   NHYD=["StB2"],   IDin=[2],
                      RDT=[1](min),
                              TABLE of ( OUTFLOW-STORAGE ) values
                                    (cms) - (ha-m)
                                        [   0.0 ,   0.0  ]
                                        [ 0.020,  0.042  ]
                                        [  -1   ,  -1    ]  (max twenty pts)
                              IDovf=[9], NHYDovf=["OVF"]
*#-------------------|--------------------------------------------------------------|
ADD HYD               IDsum=[4], NHYD=["SumB2"], IDs to add=[1+3]
*#-------------------|--------------------------------------------------------------|
*#---------------------------------------- C ---------------------------------------|
*#-------------------|--------------------------------------------------------------|
DESIGN STANDHYD       ID=[3], NHYD=["C"], DT=[1]min, AREA=[0.68](ha),
                      XIMP=[0.68], TIMP=[0.85], DWF=[0](cms), LOSS=[2], CN=[84],
                      SLOPE=[1.0](%), RAINFALL=[ , , , , ](mm/hr), END=-1
*%-------------------|--------------------------------------------------------------|
ROUTE RESERVOIR       IDout=[2],   NHYD=["StC"],   IDin=[3],
                      RDT=[1](min),
                              TABLE of ( OUTFLOW-STORAGE ) values
                                    (cms) - (ha-m)
                                        [   0.0 ,   0.0  ]
                                        [ 0.020 ,  0.038 ]
                                        [  -1   ,  -1    ]  (max twenty pts)
                              IDovf=[9], NHYDovf=["OVF"]
*#-------------------|--------------------------------------------------------------|
ADD HYD               IDsum=[1], NHYD=["SumC"], IDs to add=[2+4]
*#-------------------|--------------------------------------------------------------|
*#---------------------------------------- R4 --------------------------------------|
*#-------------------|--------------------------------------------------------------|
DESIGN STANDHYD       ID=[2], NHYD=["R4"], DT=[1]min, AREA=[0.48](ha),
                      XIMP=[0.56], TIMP=[0.70], DWF=[0](cms), LOSS=[2], CN=[84],
                      SLOPE=[0.5](%), RAINFALL=[ , , , , ](mm/hr), END=-1
*#-------------------|--------------------------------------------------------------|
ROUTE RESERVOIR       IDout=[4],   NHYD=["StR4"],   IDin=[2],
                      RDT=[1](min),
                              TABLE of ( OUTFLOW-STORAGE ) values
                                    (cms) - (ha-m)
                                        [   0.0 ,   0.0  ]
                                        [ 0.035,  0.020]
                                        [  -1   ,  -1    ]  (max twenty pts)
                              IDovf=[9], NHYDovf=["OVF"]
*#-------------------|--------------------------------------------------------------|
*#-------------------|---- CONTROLLED DISCHARGE TO HIGH STREET FROM SITE -----------|
*#-------------------|--------------------------------------------------------------|
ADD HYD               IDsum=[3], NHYD=["HighSt"], IDs to add=[1+4]
*#-------------------|--------------------------------------------------------------|
*#---------------------------------------- B1 --------------------------------------|
*#-------------------|--------------------------------------------------------------|
CALIB NASHYD          ID=[2], NHYD=["B1"], DT=[1]min, AREA=[0.33](ha),
                      DWF=[0](cms),  CN/C=[84], IA=[5.0](mm),
                      N=[3], TP=[0.17]hrs,
                      RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-------------------|--------------------------------------------------------------|
*#-------------------|---- TOTAL DISCHARGE TO HIGH STREET FROM SITE ----------------|
*#-------------------|--------------------------------------------------------------|
ADD HYD               IDsum=[4], NHYD=["SumB1"], IDs to add=[2+3]
*#-------------------|--------------------------------------------------------------|
*#-------------------|---------------- EXTERNAL AREA #2 ----------------------------|
*#-------------------|--------------------------------------------------------------|
CALIB NASHYD          ID=[1], NHYD=["EXT2"], DT=[1]min, AREA=[1.9](ha),
                      DWF=[0](cms),  CN/C=[84], IA=[5](mm),
                      N=[3], TP=[0.19]hrs,
                      RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-------------------|--------------------------------------------------------------|
*#-------------------|--------------- GOODALL SITE----------------------------------|
*#-------------------|--------------------------------------------------------------|
CALIB STANDHYD        ID=[2], NHYD=["Goodall"], DT=[1](min), AREA=[2.91](ha),
                      XIMP=[0.56], TIMP=[0.70], DWF=[0](cms), LOSS=[2],
                      SCS curve number CN=[84],
                      Pervious   surfaces: IAper=[5.0](mm), SLPP=[0.5](%),
                                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                      Impervious surfaces: IAimp=[2.0](mm), SLPI=[0.5](%),
                                           LGI=[240](m), MNI=[0.013], SCI=[0](min)
                      RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-------------------|--------------------------------------------------------------|
ADD HYD               IDsum=[5], NHYD=["GdSite"], IDs to add=[1+2]
*#-------------------|--------------------------------------------------------------|
*#-------------------|--------- TOTAL DISCHARGE TO HIGH STREET ---------------------|
*#-------------------|--------------------------------------------------------------|
ADD HYD               IDsum=[3], NHYD=["HighTot"], IDs to add=[4+5]
*#-------------------|--------------------------------------------------------------|
*#----------------------------------- OUTLET: CAMBRIDGE STREET ---------------------|
*#-------------------|--------------------------------------------------------------|
*#---------------------------------------- R5 --------------------------------------|
*#-------------------|--------------------------------------------------------------|
DESIGN STANDHYD       ID=[6], NHYD=["R5"], DT=[1]min, AREA=[0.16](ha),
                      XIMP=[0.56], TIMP=[0.70], DWF=[0](cms), LOSS=[2], CN=[84],
                      SLOPE=[0.5](%), RAINFALL=[ , , , , ](mm/hr), END=-1
*#-------------------|--------------------------------------------------------------|
*#---------------------------------- OUTLET: HOME DEPOT ----------------------------|
*#-------------------------------------------- SWM POND ----------------------------|
*#-------------------------------------------- REVISED 201 -------------------------|
*#-------------------|--------------------------------------------------------------|
CALIB STANDHYD        ID=[7], NHYD=["Rev201"], DT=[1](min), AREA=[2.50](ha),
                      XIMP=[0.9], TIMP=[0.9], DWF=[0](cms), LOSS=[2],
                      SCS curve number CN=[84],
                      Pervious   surfaces: IAper=[5.0](mm), SLPP=[2](%),
```

```
00811>                                    LGP=[40](m), MNP=[0.25], SCP=[0](min),
00812>                  Impervious surfaces: IAimp=[2](mm), SLPI=[1](%),
00813>                                    LGI=[130](m), MNI=[0.013], SCI=[0](min)
00814>                  RAINFALL=[ , , , , ](mm/hr) ,  END=-1
00815> *#-----------------|-----------------------------------------------------|
00816> FINISH
00817>
00818>
00819>
00820>
00821>
00822>
00823>
00824>
00825>
00826>
00827>
00828>
00829>
```

```
 *******************************************************************************

   SSSSS  W   W  M   M  H   H  Y   Y  M   M  OOO        999   999    =========
   S      W W W  MM MM  H   H   Y Y   MM MM  O   O      9   9 9   9
   SSSSS  W W W  M M M  HHHHH    Y    M M M  O   O ##   9   9 9   9   Ver  4.05
       S   W W   M   M  H   H    Y    M   M  O   O       9999  9999   Sept 2011
   SSSSS   W W   M   M  H   H    Y    M   M   OOO           9     9   =========
                                                       9   9 9   9   # 3737016
       StormWater Management HYdrologic Model           999   999    =========

 ********************************************************************************
 ******************************* SWMHYMO Ver/4.05 *******************************
 *********  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 :     10             *********
 *********            Max. number of rainfall points: 105408            *********
 *********            Max. number of flow points    : 105408            *********
 ********************************************************************************

 ***** DESCRIPTION SUMMARY TABLE HEADERS (units depend on METOUT in START) *****
 *****-----------------------------------------------------------------------*****
 *****    ID:  Hydrograph IDentification numbers, (1-10).                    *****
 *****  NHYD:  Hydrograph reference numbers, (6 digits or characters).       *****
 *****  AREA:  Drainage area associated with hydrograph, (ac.) or (ha.).    *****
 ***** QPEAK:  Peak flow of simulated hydrograph, (ft^3/s) or (m^3/s).      *****
 ***** TpeakDate_hh:mm is the date and time of the peak flow.                *****
 *****  R.V.:  Runoff Volume of simulated hydrograph, (in) or (mm).          *****
 *****  R.C.:  Runoff Coefficient of simulated hydrograph, (ratio).          *****
 *****     *:  see WARNING or NOTE message printed at end of run.            *****
 *****    **:  see ERROR message printed at end of run.                      *****
 ********************************************************************************
 ********************************************************************************

 ::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::

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

 ***********************     S U M M A R Y   O U T P U T     *********************
 ********************************************************************************
 *          DATE: 2015-04-09     TIME: 09:25:19     RUN COUNTER: 000137         *
 ********************************************************************************
 * Input   filename: C:\SWMHYMO\THIRDH~1\MAR31--1\PostSCS4.DAT                  *
 * Output  filename: C:\SWMHYMO\THIRDH~1\MAR31--1\PostSCS4.out                  *
 * Summary filename: C:\SWMHYMO\THIRDH~1\MAR31--1\PostSCS4.sum                  *
 * User comments:                                                               *
 * 1:_________________________________________________________________________  *
 * 2:_________________________________________________________________________  *
 * 3:_________________________________________________________________________  *
 ********************************************************************************


#*******************************************************************************
#  Project Name: [West End Commercial, Collingwood]    Project Number: [183-269
#  Date        : April 9, 2015
#  Modeller    : [T. MacDougall]
#  Company     : CF Crozier & Associates Inc.
#  License #   :  3737016
#*******************************************************************************
#   Proposed Conditions - 4 Cell Pond
#
#   Rainfall Data: Storms are the SCS Volumes from MTO Design Chart 1.01(e)
#   District 5: Owen Sound, Basins West of and including Collingwood.
#-----------------|-------------------------------------------------------------|
 RUN:COMMAND#
 001:0001------------------------------------------------------------------------
     START
      [TZERO =     .00 hrs on        0]
      [METOUT=    2    (1=imperial, 2=metric output)]
      [NSTORM=    0 ]
      [NRUN  =    1 ]
#-----------------|-------------------------------------------------------------|
#*******************************************************************************
#******************************** 25mm event ***********************************
#*******************************************************************************
#-----------------|-------------------------------------------------------------|
 001:0002------------------------------------------------------------------------
     MASS STORM
      Filename = C:\SWMHYMO\THIRDH~1\MAR31--1\SCS24HII.mst
      Comment  = 24 hour SCS II storm mass curve
      [SDT= 1.00:SDUR=  24.00:PTOT=  25.00]
#-----------------|-------------------------------------------------------------|
#--------------------------------- OUTLET: HIGH STREET -------------------------|
#-----------------|-------------------------------------------------------------|
#-----------------|------------------ EXTERNAL AREA #1 ------------------------|
#-----------------|-------------------------------------------------------------|
 001:0003---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD     01:EXT1             .60       .036 No_date   12:12   21.25
      [XIMP=.75:TIMP=.94]
      [LOSS= 2 :CN= 84.0]
      [Pervious    area: IAper= 5.00:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 2.00:SLPI=1.00:LGI= 120.:MNI=.013:SCI=   .0]
#-----------------|-------------------------------------------------------------|
#-----------------|------- SITE AREA CONTRIBUTING TO SWM FACILTY --------------|
#-----------------|-------------------------------------------------------------|
 001:0004---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD     02:AREA           15.00       .627 No_date   12:16   19.26
      [XIMP=.68:TIMP=.85]
      [LOSS= 2 :CN= 84.0]
      [Pervious    area: IAper= 5.00:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 2.00:SLPI= .50:LGI= 300.:MNI=.013:SCI=   .0]
#-----------------|-------------------------------------------------------------|
 001:0005---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            01:EXT1             .60       .036 No_date   12:12   21.25
                      + 02:AREA           15.00       .627 No_date   12:16   19.26
      [DT= 1.00]  SUM=  03:ToPond         15.60       .658 No_date   12:15   19.34
#-----------------|-------------------------------------------------------------|
#---------------------------- REGIONAL SWM FACILITY ----------------------------|
#-----------------|-------------------------------------------------------------|
 001:0006---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ROUTE RESERVOIR -> 03:ToPond         15.60       .658 No_date   12:15   19.34
      [RDT= 1.00] out<- 01:StSWM          15.60       .016 No_date   20:34   19.34
           overflow <= 09:OVF               .00       .000 No_date    0:00     .00
     {MxStoUsed=.2356E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs
#-----------------|-------------------------------------------------------------|
#---------------------------------- B2 -----------------------------------------|
#-----------------|-------------------------------------------------------------|
 001:0007---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     DESIGN STANDHYD    02:B2               .73       .040 No_date   12:12   20.48
      [XIMP=.68:TIMP=.85]
      [SLP= .50:DT= 1.00]
      [LOSS= 2 :CN= 84.0]
#-----------------|-------------------------------------------------------------|
 001:0008---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ROUTE RESERVOIR -> 02:B2               .73       .040 No_date   12:12   20.48
      [RDT= 1.00] out<- 03:StorB2           .73       .004 No_date   13:12   20.48
           overflow <= 09:OVF               .00       .000 No_date    0:00     .00
     {MxStoUsed=.8111E-02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs
#-----------------|-------------------------------------------------------------|
 001:0009---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            01:StSWM          15.60       .016 No_date   20:34   19.34
                      + 03:StorB2           .73       .004 No_date   13:12   20.48
      [DT= 1.00]  SUM=  04:SumB2          16.33       .019 No_date   15:20   19.39
#-----------------|-------------------------------------------------------------|
#----------------------------------- C -----------------------------------------|
#-----------------|-------------------------------------------------------------|
 001:0010---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     DESIGN STANDHYD    03:C                .68       .039 No_date   12:12   20.48
      [XIMP=.68:TIMP=.85]
      [SLP=1.00:DT= 1.00]
      [LOSS= 2 :CN= 84.0]
 001:0011---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ROUTE RESERVOIR -> 03:C                .68       .039 No_date   12:12   20.48
      [RDT= 1.00] out<- 02:StC              .68       .004 No_date   13:04   20.48
           overflow <= 09:OVF               .00       .000 No_date    0:00     .00
     {MxStoUsed=.7443E-02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs
#-----------------|-------------------------------------------------------------|
 001:0012---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            02:StC              .68       .004 No_date   13:04   20.48
                      + 04:SumB2          16.33       .019 No_date   15:20   19.39
      [DT= 1.00]  SUM=  01:SumC           17.01       .022 No_date   14:24   19.43
#-----------------|-------------------------------------------------------------|
#----------------------------------- R4 ----------------------------------------|
#-----------------|-------------------------------------------------------------|
 001:0013---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     DESIGN STANDHYD    02:R4               .48       .022 No_date   12:12   17.99
      [XIMP=.56:TIMP=.70]
      [SLP= .50:DT= 1.00]
      [LOSS= 2 :CN= 84.0]
#-----------------|-------------------------------------------------------------|
 001:0014---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ROUTE RESERVOIR -> 02:R4               .48       .022 No_date   12:12   17.99
      [RDT= 1.00] out<- 04:StR4             .48       .005 No_date   12:39   17.99
           overflow <= 09:OVF               .00       .000 No_date    0:00     .00
     {MxStoUsed=.2946E-02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs
#-----------------|-------------------------------------------------------------|
#-----------------|---- CONTROLLED DISCHARGE TO HIGH STREET FROM SITE ----------|
#-----------------|-------------------------------------------------------------|
 001:0015---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            01:SumC           17.01       .022 No_date   14:24   19.43
                      + 04:StR4             .48       .005 No_date   12:39   17.99
      [DT= 1.00]  SUM=  03:HighSt         17.49       .026 No_date   13:20   19.39
#-----------------|-------------------------------------------------------------|
#----------------------------------- B1 ----------------------------------------|
#-----------------|-------------------------------------------------------------|
 001:0016---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       02:B1               .33       .005 No_date   12:17    5.85
      [CN= 84.0: N= 3.00]
      [Tp=  .17:DT= 1.00]
#-----------------|-------------------------------------------------------------|
#-----------------|---- TOTAL DISCHARGE TO HIGH STREET FROM SITE ---------------|
#-----------------|-------------------------------------------------------------|
 001:0017---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            02:B1               .33       .005 No_date   12:17    5.85
                      + 03:HighSt         17.49       .026 No_date   13:20   19.39
      [DT= 1.00]  SUM=  04:SumB1          17.82       .027 No_date   13:11   19.14
#-----------------|-------------------------------------------------------------|
#-----------------|---------------- EXTERNAL AREA #2 --------------------------|
#-----------------|-------------------------------------------------------------|
 001:0018---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       01:EXT2            1.90       .040 No_date   12:18    8.48
      [CN= 89.0: N= 3.00]
      [Tp=  .19:DT= 1.00]
#-----------------|-------------------------------------------------------------|
#-----------------|---------------GOODALL SITE----------------------------------|
#-----------------|-------------------------------------------------------------|
 001:0019---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD     02:Goodall         2.91       .104 No_date   12:15   16.64
      [XIMP=.56:TIMP=.70]
      [LOSS= 2 :CN= 84.0]
      [Pervious    area: IAper= 5.00:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 2.00:SLPI= .50:LGI= 240.:MNI=.013:SCI=   .0]
#-----------------|-------------------------------------------------------------|
 001:0020---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            01:EXT2            1.90       .040 No_date   12:18    8.48
                      + 02:Goodall         2.91       .104 No_date   12:15   16.64
      [DT= 1.00]  SUM=  05:GdSum           4.81       .142 No_date   12:16   13.42
#-----------------|-------------------------------------------------------------|
#-----------------|---------- TOTAL DISCHARGE TO HIGH STREET -------------------|
#-----------------|-------------------------------------------------------------|
 001:0021---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            04:SumB1          17.82       .027 No_date   13:11   19.14
                      + 05:GdSum           4.81       .142 No_date   12:16   13.42
      [DT= 1.00]  SUM=  03:HighTot        22.63       .166 No_date   12:16   17.92
#-----------------|-------------------------------------------------------------|
#------------------------------ OUTLET: CAMBRIDGE STREET -----------------------|
#-----------------|-------------------------------------------------------------|
#----------------------------------- R5 ----------------------------------------|
#-----------------|-------------------------------------------------------------|
 001:0022---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     DESIGN STANDHYD    06:R5               .16       .007 No_date   12:12   17.99
      [XIMP=.56:TIMP=.70]
      [SLP= .50:DT= 1.00]
      [LOSS= 2 :CN= 84.0]
#-----------------|-------------------------------------------------------------|
#------------------------------ OUTLET: HOME DEPOT -----------------------------|
#---------------------------------- SWM POND -----------------------------------|
#-------------------------------- REVISED 201 ----------------------------------|
#-----------------|-------------------------------------------------------------|
 001:0023---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD     07:Rev201          2.50       .163 No_date   12:12   31.28
      [XIMP=.90:TIMP=.90]
      [LOSS= 2 :CN= 84.0]
      [Pervious    area: IAper= 5.00:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 2.00:SLPI=1.00:LGI= 130.:MNI=.013:SCI=   .0]
#-----------------|-------------------------------------------------------------|
#*******************************************************************************
#************************** 24 hour SCS 5-year *********************************
#*******************************************************************************
 001:0024------------------------------------------------------------------------
     MASS STORM
      Filename = C:\SWMHYMO\THIRDH~1\MAR31--1\SCS24HII.mst
      Comment  = 24 hour SCS II storm mass curve
      [SDT= 1.00:SDUR=  24.00:PTOT=  62.40]
#-----------------|-------------------------------------------------------------|
#--------------------------------- OUTLET: HIGH STREET -------------------------|
#-----------------|-------------------------------------------------------------|
#-----------------|------------------ EXTERNAL AREA #1 ------------------------|
#-----------------|-------------------------------------------------------------|
 001:0025---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD     01:EXT1             .60       .104 No_date   12:12   58.16
      [XIMP=.75:TIMP=.94]
      [LOSS= 2 :CN= 84.0]
      [Pervious    area: IAper= 5.00:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 2.00:SLPI=1.00:LGI= 120.:MNI=.013:SCI=   .0]
#-----------------|-------------------------------------------------------------|
```

```
#-----------------|------- SITE AREA CONTRIBUTING TO SWM FACILTY ------------|
#-----------------|---------------------------------------------------------|
 001:0026---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD      02:AREA            15.00     1.994 No_date   12:14    55.02
      [XIMP=.68:TIMP=.85]
      [LOSS= 2 :CN= 84.0]
      [Pervious     area: IAper= 5.00:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI= .50:LGI= 300.:MNI=.013:SCI=   .0]
#-----------------|---------------------------------------------------------|
 001:0027---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD             01:EXT1              .60      .104 No_date   12:12    58.16
                       + 02:AREA            15.00     1.994 No_date   12:14    55.02
      [DT= 1.00]  SUM=   03:ToPond          15.60     2.085 No_date   12:14    55.14
#-----------------|---------------------------------------------------------|
#---------------------------- REGIONAL SWM FACILITY -------------------------|
#-----------------|---------------------------------------------------------|
 001:0028---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ROUTE RESERVOIR -> 03:ToPond           15.60     2.085 No_date   12:14    55.14
      [RDT= 1.00] out<- 01:StSWM            15.60      .029 No_date   24:08    55.14
             overflow <= 09:OVF               .00      .000 No_date    0:00      .00
     {MxStoUsed=.7224E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=     0.hrs
#-----------------|---------------------------------------------------------|
#---------------------------------------- B2 -------------------------------|
#-----------------|---------------------------------------------------------|
 001:0029---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     DESIGN STANDHYD     02:B2                .73      .116 No_date   12:12    56.32
      [XIMP=.68:TIMP=.85]
      [SLP= .50:DT= 1.00]
      [LOSS= 2 :CN= 84.0]
#-----------------|---------------------------------------------------------|
 001:0030---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ROUTE RESERVOIR -> 02:B2                 .73      .116 No_date   12:12    56.32
      [RDT= 1.00] out<- 03:StorB2             .73      .011 No_date   13:03    56.32
             overflow <= 09:OVF               .00      .000 No_date    0:00      .00
     {MxStoUsed=.2264E-01, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=     0.hrs
#-----------------|---------------------------------------------------------|
 001:0031---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD             01:StSWM           15.60      .029 No_date   24:08    55.14
                       + 03:StorB2            .73      .011 No_date   13:03    56.32
      [DT= 1.00]  SUM=   04:SumB2           16.33      .038 No_date   14:13    55.19
#-----------------|---------------------------------------------------------|
#---------------------------------------- C --------------------------------|
#-----------------|---------------------------------------------------------|
 001:0032---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     DESIGN STANDHYD     03:C                 .68      .113 No_date   12:12    56.32
      [XIMP=.68:TIMP=.85]
      [SLP=1.00:DT= 1.00]
      [LOSS= 2 :CN= 84.0]
 001:0033---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ROUTE RESERVOIR -> 03:C                  .68      .113 No_date   12:12    56.32
      [RDT= 1.00] out<- 02:StC                .68      .011 No_date   12:55    56.32
             overflow <= 09:OVF               .00      .000 No_date    0:00      .00
     {MxStoUsed=.2065E-01, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=     0.hrs
#-----------------|---------------------------------------------------------|
 001:0034---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD             02:StC               .68      .011 No_date   12:55    56.32
                       + 04:SumB2           16.33      .038 No_date   14:13    55.19
      [DT= 1.00]  SUM=   01:SumC            17.01      .048 No_date   13:15    55.24
#-----------------|---------------------------------------------------------|
#---------------------------------------- R4 -------------------------------|
#-----------------|---------------------------------------------------------|
 001:0035---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     DESIGN STANDHYD     02:R4                .48      .066 No_date   12:12    52.06
      [XIMP=.56:TIMP=.70]
      [SLP= .50:DT= 1.00]
      [LOSS= 2 :CN= 84.0]
#-----------------|---------------------------------------------------------|
 001:0036---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ROUTE RESERVOIR -> 02:R4                 .48      .066 No_date   12:12    52.06
      [RDT= 1.00] out<- 04:StR4               .48      .016 No_date   12:37    52.06
             overflow <= 09:OVF               .00      .000 No_date    0:00      .00
     {MxStoUsed=.9165E-02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=     0.hrs
#-----------------|---------------------------------------------------------|
#-----------------|---- CONTROLLED DISCHARGE TO HIGH STREET FROM SITE -------|
#-----------------|---------------------------------------------------------|
 001:0037---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD             01:SumC            17.01      .048 No_date   13:15    55.24
                       + 04:StR4              .48      .016 No_date   12:37    52.06
      [DT= 1.00]  SUM=   03:HighSt          17.49      .063 No_date   12:49    55.15
#-----------------|---------------------------------------------------------|
#---------------------------------------- B1 -------------------------------|
#-----------------|---------------------------------------------------------|
 001:0038---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD        02:B1                .33      .028 No_date   12:17    31.15
      [CN= 84.0: N= 3.00]
      [Tp=  .17:DT= 1.00]
#-----------------|---------------------------------------------------------|
#-----------------|---- TOTAL DISCHARGE TO HIGH STREET FROM SITE -----------|
#-----------------|---------------------------------------------------------|
 001:0039---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD             02:B1                .33      .028 No_date   12:17    31.15
                       + 03:HighSt          17.49      .063 No_date   12:49    55.15
      [DT= 1.00]  SUM=   04:SumB1           17.82      .083 No_date   12:19    54.70
#-----------------|---------------------------------------------------------|
#-----------------|------------------ EXTERNAL AREA #2 ---------------------|
#-----------------|---------------------------------------------------------|
 001:0040---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD        01:EXT2             1.90      .150 No_date   12:18    31.15
      [CN= 84.0: N= 3.00]
      [Tp=  .19:DT= 1.00]
#-----------------|---------------------------------------------------------|
#-----------------|----------------GOODALL SITE-----------------------------|
#-----------------|---------------------------------------------------------|
 001:0041---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD      02:Goodall          2.91      .344 No_date   12:13    50.47
      [XIMP=.56:TIMP=.70]
      [LOSS= 2 :CN= 84.0]
      [Pervious     area: IAper= 5.00:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI= .50:LGI= 240.:MNI=.013:SCI=   .0]
#-----------------|---------------------------------------------------------|
 001:0042---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD             01:EXT2             1.90      .150 No_date   12:18    31.15
                       + 02:Goodall          2.91      .344 No_date   12:13    50.47
      [DT= 1.00]  SUM=   05:GdSum            4.81      .483 No_date   12:14    42.84
#-----------------|---------------------------------------------------------|
#-----------------|--------- TOTAL DISCHARGE TO HIGH STREET -----------------|
#-----------------|---------------------------------------------------------|
 001:0043---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD             04:SumB1           17.82      .083 No_date   12:19    54.70
                       + 05:GdSum            4.81      .483 No_date   12:14    42.84
      [DT= 1.00]  SUM=   03:HighTot         22.63      .562 No_date   12:15    52.18
#-----------------|---------------------------------------------------------|
#------------------------------ OUTLET: CAMBRIDGE STREET -------------------|
#-----------------|---------------------------------------------------------|
#---------------------------------------- R5 -------------------------------|
#-----------------|---------------------------------------------------------|
 001:0044---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     DESIGN STANDHYD     06:R5                .16      .022 No_date   12:12    57.06
      [XIMP=.56:TIMP=.70]
      [SLP= .50:DT= 1.00]
      [LOSS= 2 :CN= 84.0]
#-----------------|---------------------------------------------------------|
#------------------------------ OUTLET: HOME DEPOT -------------------------|
#--------------------------------- SWM POND --------------------------------|
#--------------------------------- REVISED 201 -----------------------------|
#-----------------|---------------------------------------------------------|
 001:0045---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD      07:Rev201           2.50      .442 No_date   12:12    57.47
      [XIMP=.90:TIMP=.90]
      [LOSS= 2 :CN= 84.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI=1.00:LGI= 130.:MNI=.013:SCI=   .0]
#-----------------|---------------------------------------------------------|
#***************************************************************************
#************************* 24 hour SCS 25-year *****************************
#***************************************************************************
 001:0046-----------------------------------------------------------------------
     MASS STORM
      Filename = C:\SWMHYMO\THIRDH~1\MAR31--1\SCS24HII.mst
      Comment  = 24 hour SCS II storm mass curve
      [SDT= 1.00:SDUR=  24.00:PTOT=  86.40]
#-----------------|---------------------------------------------------------|
#------------------------------ OUTLET: HIGH STREET ------------------------|
#-----------------|---------------------------------------------------------|
#-----------------|--------------- EXTERNAL AREA #1 ------------------------|
#-----------------|---------------------------------------------------------|
 001:0047---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD      01:EXT1              .60      .148 No_date   12:12    82.05
      [XIMP=.75:TIMP=.94]
      [LOSS= 2 :CN= 84.0]
      [Pervious     area: IAper= 5.00:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI=1.00:LGI= 120.:MNI=.013:SCI=   .0]
#-----------------|---------------------------------------------------------|
#-----------------|------- SITE AREA CONTRIBUTING TO SWM FACILTY ------------|
#-----------------|---------------------------------------------------------|
 001:0048---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD      02:AREA            15.00     2.979 No_date   12:13    78.58
      [XIMP=.68:TIMP=.85]
      [LOSS= 2 :CN= 84.0]
      [Pervious     area: IAper= 5.00:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI= .50:LGI= 300.:MNI=.013:SCI=   .0]
#-----------------|---------------------------------------------------------|
 001:0049---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD             01:EXT1              .60      .148 No_date   12:12    82.05
                       + 02:AREA            15.00     2.979 No_date   12:13    78.58
      [DT= 1.00]  SUM=   03:ToPond          15.60     3.120 No_date   12:13    78.71
#-----------------|---------------------------------------------------------|
#---------------------------- REGIONAL SWM FACILITY -------------------------|
#-----------------|---------------------------------------------------------|
 001:0050---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ROUTE RESERVOIR -> 03:ToPond           15.60     3.120 No_date   12:13    78.71
      [RDT= 1.00] out<- 01:StSWM            15.60      .035 No_date   24:09    78.70
             overflow <= 09:OVF               .00      .000 No_date    0:00      .00
     {MxStoUsed=.1059E+01, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=     0.hrs
#-----------------|---------------------------------------------------------|
#---------------------------------------- B2 -------------------------------|
#-----------------|---------------------------------------------------------|
 001:0051---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     DESIGN STANDHYD     02:B2                .73      .168 No_date   12:12    79.89
      [XIMP=.68:TIMP=.85]
      [SLP= .50:DT= 1.00]
      [LOSS= 2 :CN= 84.0]
#-----------------|---------------------------------------------------------|
 001:0052---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ROUTE RESERVOIR -> 02:B2                 .73      .168 No_date   12:12    79.89
      [RDT= 1.00] out<- 03:StorB2             .73      .015 No_date   13:02    79.89
             overflow <= 09:OVF               .00      .000 No_date    0:00      .00
     {MxStoUsed=.3221E-01, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=     0.hrs
#-----------------|---------------------------------------------------------|
 001:0053---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD             01:StSWM           15.60      .035 No_date   24:09    78.70
                       + 03:StorB2            .73      .015 No_date   13:02    79.89
      [DT= 1.00]  SUM=   04:SumB2           16.33      .047 No_date   14:13    78.76
#-----------------|---------------------------------------------------------|
#---------------------------------------- C --------------------------------|
#-----------------|---------------------------------------------------------|
 001:0054---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     DESIGN STANDHYD     03:C                 .68      .162 No_date   12:12    79.89
      [XIMP=.68:TIMP=.85]
      [SLP=1.00:DT= 1.00]
      [LOSS= 2 :CN= 84.0]
 001:0055---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ROUTE RESERVOIR -> 03:C                  .68      .162 No_date   12:12    79.89
      [RDT= 1.00] out<- 02:StC                .68      .015 No_date   12:51    79.89
             overflow <= 09:OVF               .00      .000 No_date    0:00      .00
     {MxStoUsed=.2936E-01, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=     0.hrs
#-----------------|---------------------------------------------------------|
 001:0056---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD             02:StC               .68      .015 No_date   12:51    79.89
                       + 04:SumB2           16.33      .047 No_date   14:13    78.76
      [DT= 1.00]  SUM=   01:SumC            17.01      .062 No_date   13:13    78.80
#-----------------|---------------------------------------------------------|
#---------------------------------------- R4 -------------------------------|
#-----------------|---------------------------------------------------------|
 001:0057---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     DESIGN STANDHYD     02:R4                .48      .099 No_date   12:12    75.03
      [XIMP=.56:TIMP=.70]
      [SLP= .50:DT= 1.00]
      [LOSS= 2 :CN= 84.0]
#-----------------|---------------------------------------------------------|
 001:0058---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ROUTE RESERVOIR -> 02:R4                 .48      .099 No_date   12:12    75.03
      [RDT= 1.00] out<- 04:StR4               .48      .024 No_date   12:34    75.03
             overflow <= 09:OVF               .00      .000 No_date    0:00      .00
     {MxStoUsed=.1350E-01, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=     0.hrs
#-----------------|---------------------------------------------------------|
#-----------------|---- CONTROLLED DISCHARGE TO HIGH STREET FROM SITE -------|
#-----------------|---------------------------------------------------------|
 001:0059---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD             01:SumC            17.01      .062 No_date   13:13    78.80
                       + 04:StR4              .48      .024 No_date   12:34    75.03
      [DT= 1.00]  SUM=   03:HighSt          17.49      .084 No_date   12:45    78.70
#-----------------|---------------------------------------------------------|
#---------------------------------------- B1 -------------------------------|
#-----------------|---------------------------------------------------------|
 001:0060---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD        02:B1                .33      .045 No_date   12:16    51.05
      [CN= 84.0: N= 3.00]
      [Tp=  .17:DT= 1.00]
#-----------------|---------------------------------------------------------|
#-----------------|---- TOTAL DISCHARGE TO HIGH STREET FROM SITE -----------|
#-----------------|---------------------------------------------------------|
 001:0061---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD             02:B1                .33      .045 No_date   12:16    51.05
                       + 03:HighSt          17.49      .084 No_date   12:45    78.70
      [DT= 1.00]  SUM=   04:SumB1           17.82      .120 No_date   12:18    78.18
#-----------------|---------------------------------------------------------|
#-----------------|------------------ EXTERNAL AREA #2 ---------------------|
#-----------------|---------------------------------------------------------|
 001:0062---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD        01:EXT2             1.90      .246 No_date   12:17    51.06
      [CN= 84.0: N= 3.00]
      [Tp=  .19:DT= 1.00]
#-----------------|---------------------------------------------------------|
#-----------------|----------------GOODALL SITE-----------------------------|
#-----------------|---------------------------------------------------------|
 001:0063---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD      02:Goodall          2.91      .524 No_date   12:13    73.19
      [XIMP=.56:TIMP=.70]
      [LOSS= 2 :CN= 84.0]
```

```
       [Pervious    area: IAper= 5.00:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 2.00:SLPI= .50:LGI= 240.:MNI=.013:SCI=   .0]
#-----------------|------------------------------------------------------------|
 001:0064--------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD             01:EXT2            1.90      .246 No_date   12:17   51.06
                       + 02:Goodall         2.91      .524 No_date   12:13   73.39
       [DT= 1.00]  SUM=  05:GdSum           4.81      .749 No_date   12:14   64.57
#-----------------|------------------------------------------------------------|
#-----------------|---------- TOTAL DISCHARGE TO HIGH STREET -------------------|
#-----------------|------------------------------------------------------------|
 001:0065--------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD             04:SumB1          17.82      .120 No_date   12:18   78.18
                       + 05:GdSum           4.81      .749 No_date   12:14   64.57
       [DT= 1.00]  SUM=  03:HighTot        22.63      .863 No_date   12:14   75.29
#-----------------|------------------------------------------------------------|
#-------------------------- OUTLET: CAMBRIDGE STREET --------------------------|
#-----------------|------------------------------------------------------------|
#-------------------------------------- R5 -----------------------------------|
#-----------------|------------------------------------------------------------|
 001:0066--------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     DESIGN STANDHYD     06:R5               .16      .033 No_date   12:12   75.03
       [XIMP=.56:TIMP=.70]
       [SLP= .50:DT= 1.00]
       [LOSS= 2 :CN= 84.0]
#-----------------|------------------------------------------------------------|
#--------------------------- OUTLET: HOME DEPOT ------------------------------|
#-------------------------------- SWM POND ----------------------------------|
#------------------------------- REVISED 201 --------------------------------|
#-----------------|------------------------------------------------------------|
 001:0067--------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD      07:Rev201          2.50      .627 No_date   12:12   81.07
       [XIMP=.90:TIMP=.90]
       [LOSS= 2 :CN= 84.0]
       [Pervious    area: IAper= 5.00:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 2.00:SLPI=1.00:LGI= 130.:MNI=.013:SCI=   .0]
#-----------------|------------------------------------------------------------|
#******************************************************************************
#-------------------------------- 24 hour SCS 100-year -----------------------|
#******************************************************************************
#-----------------|------------------------------------------------------------|
 001:0068----------------------------------------------------------------------
     MASS STORM
      Filename = C:\SWMHYMO\THIRDH~1\MAR31-~1\SCS24HII.MST
      Comment  = 24 hour SCS II storm mass curve
      [SDT=12.00:SDUR=  24.00:PTOT= 108.00]
#-----------------|------------------------------------------------------------|
#-------------------------------- OUTLET: HIGH STREET ------------------------|
#-----------------|------------------------------------------------------------|
#-----------------|----------------- EXTERNAL AREA #1 -------------------------|
#-----------------|------------------------------------------------------------|
 001:0069--------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD      01:EXT1             .60      .188 No_date   12:12  103.58
       [XIMP=.75:TIMP=.94]
       [LOSS= 2 :CN= 84.0]
       [Pervious    area: IAper= 5.00:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 2.00:SLPI=1.00:LGI= 120.:MNI=.013:SCI=   .0]
#-----------------|------------------------------------------------------------|
#-----------------|------- SITE AREA CONTRIBUTING TO SWM FACILTY --------------|
#-----------------|------------------------------------------------------------|
 001:0070--------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD      02:AREA           15.00     3.906 No_date   12:13   99.92
       [XIMP=.68:TIMP=.85]
       [LOSS= 2 :CN= 84.0]
       [Pervious    area: IAper= 5.00:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 2.00:SLPI= .50:LGI= 300.:MNI=.013:SCI=   .0]
#-----------------|------------------------------------------------------------|
 001:0071--------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD             01:EXT1             .60      .188 No_date   12:12  103.58
                       + 02:AREA           15.00     3.906 No_date   12:13   99.92
       [DT= 1.00]  SUM=  03:ToPond         15.60     4.086 No_date   12:13  100.06
#-----------------|------------------------------------------------------------|
#------------------------------ REGIONAL SWM FACILITY ------------------------|
#-----------------|------------------------------------------------------------|
 001:0072--------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ROUTE RESERVOIR -> 03:ToPond          15.60     4.086 No_date   12:13  100.06
       [RDT= 1.00] out<- 01:StSWM          15.60      .039 No_date   24:10  100.05
              overflow <= 09:OVF             .00      .000 No_date    0:00     .00
      {MxStoUsed=.1369E+01, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs
#-----------------|------------------------------------------------------------|
#-------------------------------------- B2 -----------------------------------|
#-----------------|------------------------------------------------------------|
 001:0073--------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     DESIGN STANDHYD     02:B2               .73      .216 No_date   12:12  101.24
       [XIMP=.68:TIMP=.85]
       [SLP= .50:DT= 1.00]
       [LOSS= 2 :CN= 84.0]
#-----------------|------------------------------------------------------------|
 001:0074--------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ROUTE RESERVOIR -> 02:B2                .73      .216 No_date   12:12  101.24
       [RDT= 1.00] out<- 03:StorB2           .73      .019 No_date   13:00  101.24
              overflow <= 09:OVF             .00      .000 No_date    0:00     .00
      {MxStoUsed=.4086E-01, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs
#-----------------|------------------------------------------------------------|
 001:0075--------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD             01:StSWM          15.60      .039 No_date   24:10  100.05
                       + 03:StorB2           .73      .019 No_date   13:00  101.24
       [DT= 1.00]  SUM=  04:SumB2          16.33      .055 No_date   13:18  100.10
#-----------------|------------------------------------------------------------|
#--------------------------------------- C -----------------------------------|
#-----------------|------------------------------------------------------------|
 001:0076--------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     DESIGN STANDHYD     03:C                .68      .208 No_date   12:12  101.24
       [XIMP=.68:TIMP=.85]
       [SLP=1.00:DT= 1.00]
       [LOSS= 2 :CN= 84.0]
 001:0077--------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ROUTE RESERVOIR -> 03:C                 .68      .208 No_date   12:12  101.24
       [RDT= 1.00] out<- 02:StC              .68      .020 No_date   12:49  101.24
              overflow <= 09:OVF             .00      .000 No_date    0:00     .00
      {MxStoUsed=.3725E-01, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs
#-----------------|------------------------------------------------------------|
 001:0078--------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD             02:StC              .68      .020 No_date   12:49  101.24
                       + 04:SumB2          16.33      .055 No_date   13:18  100.10
       [DT= 1.00]  SUM=  01:SumC           17.01      .074 No_date   13:05  100.15
#-----------------|------------------------------------------------------------|
#-------------------------------------- R4 -----------------------------------|
#-----------------|------------------------------------------------------------|
 001:0079--------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     DESIGN STANDHYD     02:R4               .48      .129 No_date   12:12   96.01
       [XIMP=.56:TIMP=.70]
       [SLP= .50:DT= 1.00]
       [LOSS= 2 :CN= 84.0]
#-----------------|------------------------------------------------------------|
 001:0080--------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ROUTE RESERVOIR -> 02:R4                .48      .129 No_date   12:12   96.01
       [RDT= 1.00] out<- 04:StR4             .48      .031 No_date   12:33   96.01
              overflow <= 09:OVF             .00      .000 No_date    0:00     .00
      {MxStoUsed=.1745E-01, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs
#-----------------|------------------------------------------------------------|
#-----------------|--- CONTROLLED DISCHARGE TO HIGH STREET FROM SITE ----------|
#-----------------|------------------------------------------------------------|
 001:0081--------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD             01:SumC           17.01      .074 No_date   13:05  100.15
                       + 04:StR4             .48      .031 No_date   12:33   96.01
       [DT= 1.00]  SUM=  03:HighSt         17.49      .103 No_date   12:41  100.03
#-----------------|------------------------------------------------------------|
#-------------------------------------- B1 -----------------------------------|
#-----------------|------------------------------------------------------------|
 001:0082--------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD        02:B1               .33      .062 No_date   12:16   70.08
       [CN= 84.0: N= 3.00]
       [Tp=  .17:DT= 1.00]
#-----------------|------------------------------------------------------------|
#-----------------|---- TOTAL DISCHARGE TO HIGH STREET FROM SITE --------------|
#-----------------|------------------------------------------------------------|
 001:0083--------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD             02:B1               .33      .062 No_date   12:16   70.08
                       + 03:HighSt         17.49      .103 No_date   12:41  100.03
       [DT= 1.00]  SUM=  04:SumB1          17.82      .154 No_date   12:18   99.48
#-----------------|------------------------------------------------------------|
#-----------------|---------------- EXTERNAL AREA #2 --------------------------|
#-----------------|------------------------------------------------------------|
 001:0084--------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD        01:EXT2            1.90      .336 No_date   12:17   70.08
       [CN= 84.0: N= 3.00]
       [Tp=  .19:DT= 1.00]
#-----------------|------------------------------------------------------------|
#-----------------|---------------GOODALL SITE---------------------------------|
#-----------------|------------------------------------------------------------|
 001:0085--------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD      02:Goodall         2.91      .696 No_date   12:13   94.35
       [XIMP=.56:TIMP=.70]
       [LOSS= 2 :CN= 84.0]
       [Pervious    area: IAper= 5.00:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 2.00:SLPI= .50:LGI= 240.:MNI=.013:SCI=   .0]
#-----------------|------------------------------------------------------------|
 001:0086--------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD             01:EXT2            1.90      .336 No_date   12:17   70.08
                       + 02:Goodall         2.91      .696 No_date   12:13   94.35
       [DT= 1.00]  SUM=  05:GdSum           4.81     1.005 No_date   12:14   84.76
#-----------------|------------------------------------------------------------|
#-----------------|---------- TOTAL DISCHARGE TO HIGH STREET -------------------|
#-----------------|------------------------------------------------------------|
 001:0087--------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD             04:SumB1          17.82      .154 No_date   12:18   99.48
                       + 05:GdSum           4.81     1.005 No_date   12:14   84.76
       [DT= 1.00]  SUM=  03:HighTot        22.63     1.153 No_date   12:14   96.35
#-----------------|------------------------------------------------------------|
#-------------------------- OUTLET: CAMBRIDGE STREET --------------------------|
#-----------------|------------------------------------------------------------|
#-------------------------------------- R5 -----------------------------------|
#-----------------|------------------------------------------------------------|
 001:0088--------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     DESIGN STANDHYD     06:R5               .16      .044 No_date   12:12   96.01
       [XIMP=.56:TIMP=.70]
       [SLP= .50:DT= 1.00]
       [LOSS= 2 :CN= 84.0]
#-----------------|------------------------------------------------------------|
#--------------------------- OUTLET: HOME DEPOT ------------------------------|
#-------------------------------- SWM POND ----------------------------------|
#------------------------------- REVISED 201 --------------------------------|
#-----------------|------------------------------------------------------------|
 001:0089--------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD      07:Rev201          2.50      .794 No_date   12:12  102.41
       [XIMP=.90:TIMP=.90]
       [LOSS= 2 :CN= 84.0]
       [Pervious    area: IAper= 5.00:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 2.00:SLPI=1.00:LGI= 130.:MNI=.013:SCI=   .0]
#-----------------|------------------------------------------------------------|
#******************************************************************************
#-------------------------------- REGIONAL EVENT -----------------------------|
#******************************************************************************
#-----------------|------------------------------------------------------------|
 001:0090----------------------------------------------------------------------
     READ STORM
      Filename = tim.STM
      Comment  =
      [SDT=60.00:SDUR=  12.00:PTOT= 193.00]
#-----------------|------------------------------------------------------------|
#-------------------------------- OUTLET: HIGH STREET ------------------------|
#-----------------|------------------------------------------------------------|
#-----------------|----------------- EXTERNAL AREA #1 -------------------------|
#-----------------|------------------------------------------------------------|
 001:0091--------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD      01:EXT1             .60      .071 No_date    7:00  188.46
       [XIMP=.75:TIMP=.94]
       [LOSS= 2 :CN= 84.0]
       [Pervious    area: IAper= 5.00:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 2.00:SLPI=1.00:LGI= 120.:MNI=.013:SCI=   .0]
#-----------------|------------------------------------------------------------|
#-----------------|------- SITE AREA CONTRIBUTING TO SWM FACILTY --------------|
#-----------------|------------------------------------------------------------|
 001:0092--------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD      02:AREA           15.00     1.742 No_date    7:00  184.40
       [XIMP=.68:TIMP=.85]
       [LOSS= 2 :CN= 84.0]
       [Pervious    area: IAper= 5.00:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 2.00:SLPI= .50:LGI= 300.:MNI=.013:SCI=   .0]
#-----------------|------------------------------------------------------------|
 001:0093--------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD             01:EXT1             .60      .071 No_date    7:00  188.46
                       + 02:AREA           15.00     1.742 No_date    7:00  184.40
       [DT= 1.00]  SUM=  03:ToPond         15.60     1.814 No_date    7:00  184.56
#-----------------|------------------------------------------------------------|
#------------------------------ REGIONAL SWM FACILITY ------------------------|
#-----------------|------------------------------------------------------------|
 001:0094--------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ROUTE RESERVOIR -> 03:ToPond          15.60     1.814 No_date    7:00  184.56
       [RDT= 1.00] out<- 01:StSWM          15.60      .926 No_date    9:06  184.54
              overflow <= 09:OVF             .00      .000 No_date    0:00     .00
      {MxStoUsed=.1939E+01, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs
#-----------------|------------------------------------------------------------|
#-------------------------------------- B2 -----------------------------------|
#-----------------|------------------------------------------------------------|
 001:0095--------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     DESIGN STANDHYD     02:B2               .73      .086 No_date    7:00  185.74
       [XIMP=.68:TIMP=.85]
       [SLP= .50:DT= 1.00]
       [LOSS= 2 :CN= 84.0]
#-----------------|------------------------------------------------------------|
 001:0096--------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ROUTE RESERVOIR -> 02:B2                .73      .086 No_date    7:00  185.74
       [RDT= 1.00] out<- 03:StB2             .55      .020 No_date    6:39  185.74
              overflow <= 09:OVF             .18      .066 No_date    7:00  185.74
      {MxStoUsed=.1200E-01, TotOvfVol=.3372E-01, N-Ovf=    2, TotDurOvf=    4.hrs
#-----------------|------------------------------------------------------------|
 001:0097--------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD             01:StSWM          15.60      .926 No_date    9:06  184.54
                       + 03:StB2             .55      .020 No_date    6:39  185.74
       [DT= 1.00]  SUM=  04:SumB2          16.15      .946 No_date    9:06  184.58
#-----------------|------------------------------------------------------------|
#--------------------------------------- C -----------------------------------|
#-----------------|------------------------------------------------------------|
 001:0098--------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     DESIGN STANDHYD     03:C                .68      .080 No_date    7:00  185.74
       [XIMP=.68:TIMP=.85]
       [SLP=1.00:DT= 1.00]
       [LOSS= 2 :CN= 84.0]
 001:0099--------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
```

```
00811>      ROUTE RESERVOIR -> 03:C                .68     .080 No_date    7:00  185.74
00812>       [RDT= 1.00] out<- 02:StC              .52     .020 No_date    6:37  185.74
00813>            overflow <= 09:OVF               .16     .060 No_date    7:00  185.74
00814>      [MxStoUsed=.3800E-01, TotOvfVol=.2903E-01, N-Ovf=    3, TotDurOvf=    4.hrs
00815> #-----------------|-------------------------------------------------------------|
00816>  001:0100--------------ID:NHYD----------AREA---QPEAK-TpeakDate_hh:mm----R.V.-
00817>      ADD HYD          02:StC              .52     .020 No_date    6:37  185.74
00818>                     + 04:SumB2          16.15     .946 No_date    9:06  184.58
00819>       [DT= 1.00]  SUM= 01:SumC           16.67     .966 No_date    9:06  184.62
00820> #-----------------|-------------------------------------------------------------|
00821> #------------------------------- R4 ------------------------------------------|
00822> #-----------------|-------------------------------------------------------------|
00823>  001:0101--------------ID:NHYD----------AREA---QPEAK-TpeakDate_hh:mm----R.V.-
00824>      DESIGN STANDHYD   02:R4               .48     .055 No_date    7:00  179.72
00825>       [XIMP=.56:TIMP=.70]
00826>       [SLP=  .50:DT= 1.00]
00827>       [LOSS= 2 :CN= 84.0]
00828> #-----------------|-------------------------------------------------------------|
00829>  001:0102--------------ID:NHYD----------AREA---QPEAK-TpeakDate_hh:mm----R.V.-
00830>      ROUTE RESERVOIR -> 02:R4               .48     .055 No_date    7:00  179.72
00831>       [RDT= 1.00] out<- 04:StR4             .48     .033 No_date    7:19  179.72
00832>            overflow <= 09:OVF               .00     .000 No_date    0:00     .00
00833>      [MxStoUsed=.1862E-01, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs
00834> #-----------------|-------------------------------------------------------------|
00835> #-----------------|---- CONTROLLED DISCHARGE TO HIGH STREET FROM SITE --------|
00836> #-----------------|-------------------------------------------------------------|
00837>  001:0103--------------ID:NHYD----------AREA---QPEAK-TpeakDate_hh:mm----R.V.-
00838>      ADD HYD          01:SumC           16.67     .966 No_date    9:06  184.62
00839>                     + 04:StR4            .48     .033 No_date    7:19  179.72
00840>       [DT= 1.00]  SUM= 03:HighSt         17.15     .996 No_date    9:06  184.48
00841> #-----------------|-------------------------------------------------------------|
00842> #------------------------------- B1 ------------------------------------------|
00843> #-----------------|-------------------------------------------------------------|
00844>  001:0104--------------ID:NHYD----------AREA---QPEAK-TpeakDate_hh:mm----R.V.-
00845>      CALIB NASHYD      02:B1               .33     .035 No_date    7:00  149.52
00846>       [CN= 84.0: N= 3.00]
00847>       [Tp=  .17:DT= 1.00]
00848> #-----------------|-------------------------------------------------------------|
00849> #-----------------|---- TOTAL DISCHARGE TO HIGH STREET FROM SITE -------------|
00850> #-----------------|-------------------------------------------------------------|
00851>  001:0105--------------ID:NHYD----------AREA---QPEAK-TpeakDate_hh:mm----R.V.-
00852>      ADD HYD          02:B1               .33     .035 No_date    7:00  149.52
00853>                     + 03:HighSt         17.15     .996 No_date    9:06  184.48
00854>       [DT= 1.00]  SUM= 04:SumB1          17.48    1.015 No_date    9:05  183.82
00855> #-----------------|-------------------------------------------------------------|
00856> #-----------------|---------------- EXTERNAL AREA #2 ---------------------------|
00857> #-----------------|-------------------------------------------------------------|
00858>  001:0106--------------ID:NHYD----------AREA---QPEAK-TpeakDate_hh:mm----R.V.-
00859>      CALIB NASHYD      01:EXT2            1.90     .202 No_date    7:01  149.52
00860>       [CN= 84.0: N= 3.00]
00861>       [Tp=  .19:DT= 1.00]
00862> #-----------------|-------------------------------------------------------------|
00863> #-----------------|-------------GOODALL SITE-----------------------------------|
00864> #-----------------|-------------------------------------------------------------|
00865>  001:0107--------------ID:NHYD----------AREA---QPEAK-TpeakDate_hh:mm----R.V.-
00866>      CALIB STANDHYD    02:Goodall         2.91     .329 No_date    7:00  178.02
00867>       [XIMP=.56:TIMP=.70]
00868>       [LOSS= 2 :CN= 84.0]
00869>       [Pervious     area: IAper= 5.00:SLPP=  .50:LGP=  40.:MNP=.250:SCP=    .0]
00870>       [Impervious   area: IAimp= 2.00:SLPI=  .50:LGI= 240.:MNI=.013:SCI=    .0]
00871> #-----------------|-------------------------------------------------------------|
00872>  001:0108--------------ID:NHYD----------AREA---QPEAK-TpeakDate_hh:mm----R.V.-
00873>      ADD HYD          01:EXT2            1.90     .202 No_date    7:01  149.52
00874>                     + 02:Goodall         2.91     .329 No_date    7:00  178.02
00875>       [DT= 1.00]  SUM= 05:GdSite          4.81     .531 No_date    7:00  166.76
00876> #-----------------|-------------------------------------------------------------|
00877> #-----------------|-------- TOTAL DISCHARGE TO HIGH STREET ------------------|
00878> #-----------------|-------------------------------------------------------------|
00879>  001:0109--------------ID:NHYD----------AREA---QPEAK-TpeakDate_hh:mm----R.V.-
00880>      ADD HYD          04:SumB1          17.48    1.015 No_date    9:05  183.82
00881>                     + 05:GdSite          4.81     .531 No_date    7:00  166.76
00882>       [DT= 1.00]  SUM= 03:HighTot        22.29    1.304 No_date    9:02  190.14
00883> #-----------------|-------------------------------------------------------------|
00884> #------------------------ OUTLET: CAMBRIDGE STREET ---------------------------|
00885> #-----------------|-------------------------------------------------------------|
00886> #------------------------------- R5 ------------------------------------------|
00887> #-----------------|-------------------------------------------------------------|
00888>  001:0110--------------ID:NHYD----------AREA---QPEAK-TpeakDate_hh:mm----R.V.-
00889>      DESIGN STANDHYD   06:R5               .14     .018 No_date    7:00  179.72
00890>       [XIMP=.56:TIMP=.70]
00891>       [SLP=  .50:DT= 1.00]
00892>       [LOSS= 2 :CN= 84.0]
00893> #-----------------|-------------------------------------------------------------|
00894> #------------------------ OUTLET: HOME DEPOT ---------------------------------|
00895> #-------------------------------- SWM POND -----------------------------------|
00896> #-----------------|-------------- REVISED 201 ---------------------------------|
00897> #-----------------|-------------------------------------------------------------|
00898>  001:0111--------------ID:NHYD----------AREA---QPEAK-TpeakDate_hh:mm----R.V.-
00899>      CALIB STANDHYD    07:Rev201          2.50     .295 No_date    7:00  186.85
00900>       [XIMP=.90:TIMP=.90]
00901>       [LOSS= 2 :CN= 84.0]
00902>       [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  40.:MNP=.250:SCP=    .0]
00903>       [Impervious   area: IAimp= 2.00:SLPI=1.00:LGI= 130.:MNI=.013:SCI=    .0]
00904> #-----------------|-------------------------------------------------------------|
00905>  001:0112--------------------------------------------------------------------------
00906>       FINISH
00907> --------------------------------------------------------------------------------
00908> ********************************************************************************
00909>      WARNINGS / ERRORS / NOTES
00910>      -------------------------
00911>    Simulation ended on 2015-04-09     at 09:25:23
00912> ********************************************************************************
00913>
```

UN CONTROLLED


```
2      Metric units
*#*********************************************************************************
*#   Project Name: [West End Commercial, Collingwood]    Project Number: [183-269
*#   Date         : April 9, 2015
*#   Modeller     : [T. MacDougall]
*#   Company      : CF Crozier & Associates Inc.
*#   License #    : 3737016
*#*********************************************************************************
*#    Uncontrolled Site Conditions - no ponds
*#
*#    Rainfall Data:  Storms are the SCS Volumes from MTO Design Chart 1.01(e)
*#    District 5: Owen Sound, Basins West of and including Collingwood.
*#-----------------|-------------------------------------------------------------|
START                 TZERO=[0.0],   METOUT=[2],   NSTORM=[0],   NRUN=[0]
*%                     [  ] <--storm filename, one per line for NSTORM time
*#-----------------|-------------------------------------------------------------|
*#*********************************************************************************
*#                                          25mm Event
*#*********************************************************************************
*#-----------------|-------------------------------------------------------------|
CHICAGO STORM         IUNITS=[2],  TD=[4](hrs), TPRAT=[0.333],  CSDT=[5](min),
                      ICASEcs=[1],
                       A=[568.700],  B=[6.662], and C=[0.819],
*#-----------------|-------------------------------------------------------------|
*#------------------------------------ OUTLET: HIGH STREET -----------------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|---------------- EXTERNAL AREA #1 ----------------------------|
*#-----------------|-------------------------------------------------------------|
CALIB STANDHYD        ID=[1], NHYD=["EXT1"], DT=[1](min), AREA=[0.6](ha),
                      XIMP=[0.75], TIMP=[0.94], DWF=[0](cms), LOSS=[2],
                      SCS curve number CN=[84],
                      Pervious   surfaces: IAper=[5.0](mm), SLPP=[0.5](%),
                                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                      Impervious surfaces: IAimp=[2.0](mm), SLPI=[1.0](%),
                                           LGI=[120](m), MNI=[0.013], SCI=[0](min)
                      RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|-------------------------------------------------------------|
*#-----------------|------- SITE AREA CONTRIBUTING TO SWM FACILTY ----------------|
*#-----------------|-------------------------------------------------------------|
CALIB STANDHYD        ID=[2], NHYD=["AREA"], DT=[1](min), AREA=[15](ha),
                      XIMP=[0.68], TIMP=[0.85], DWF=[0](cms), LOSS=[2],
                      SCS curve number CN=[84],
                      Pervious   surfaces: IAper=[5](mm), SLPP=[0.5](%),
                                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                      Impervious surfaces: IAimp=[2](mm), SLPI=[0.5](%),
                                           LGI=[300](m), MNI=[0.013], SCI=[0](min)
                      RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|-------------------------------------------------------------|
ADD HYD               IDsum=[3], NHYD=["ToPond"], IDs to add=[1+2]
*#-----------------|-------------------------------------------------------------|
*#-----------------|---------------- B2 ------------------------------------------|
*#-----------------|-------------------------------------------------------------|
DESIGN STANDHYD       ID=[2], NHYD=["B2"], DT=[1]min, AREA=[0.73](ha),
                      XIMP=[0.68], TIMP=[0.85], DWF=[0](cms), LOSS=[2], CN=[84],
                      SLOPE=[0.5](%), RAINFALL=[ , , , , ](mm/hr), END=-1
*#-----------------|-------------------------------------------------------------|
ADD HYD               IDsum=[4], NHYD=["SumB2"], IDs to add=[2+3]
*#-----------------|-------------------------------------------------------------|
*#----------------------------------- C -----------------------------------------|
*#-----------------|-------------------------------------------------------------|
DESIGN STANDHYD       ID=[3], NHYD=["C"], DT=[1]min, AREA=[0.68](ha),
                      XIMP=[0.68], TIMP=[0.85], DWF=[0](cms), LOSS=[2], CN=[84],
                      SLOPE=[1.0](%), RAINFALL=[ , , , , ](mm/hr), END=-1
*#-----------------|-------------------------------------------------------------|
ADD HYD               IDsum=[1], NHYD=["SumC"], IDs to add=[3+4]
*#-----------------|-------------------------------------------------------------|
*#----------------------------------- R4 ----------------------------------------|
*#-----------------|-------------------------------------------------------------|
DESIGN STANDHYD       ID=[2], NHYD=["R4"], DT=[1]min, AREA=[0.48](ha),
                      XIMP=[0.56], TIMP=[0.70], DWF=[0](cms), LOSS=[2], CN=[84],
                      SLOPE=[0.5](%), RAINFALL=[ , , , , ](mm/hr), END=-1
*#-----------------|-------------------------------------------------------------|
ADD HYD               IDsum=[3], NHYD=["HighSt"], IDs to add=[1+2]
*#-----------------|-------------------------------------------------------------|
*#----------------------------------- B1 ----------------------------------------|
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD          ID=[2], NHYD=["B1"], DT=[1]min, AREA=[0.33](ha),
                      DWF=[0](cms),  CN/C=[84], IA=[5.0](mm),
                      N=[3], TP=[0.17]hrs,
                      RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
*#-----------------|---- TOTAL DISCHARGE TO HIGH STREET FROM SITE ---------------|
*#-----------------|-------------------------------------------------------------|
ADD HYD               IDsum=[4], NHYD=["SumB1"], IDs to add=[2+3]
*#-----------------|-------------------------------------------------------------|
*#-----------------|---------------- EXTERNAL AREA #2 ----------------------------|
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD          ID=[1], NHYD=["EXT2"], DT=[1]min, AREA=[1.9](ha),
                      DWF=[0](cms),  CN/C=[89], IA=[3.9](mm),
                      N=[3], TP=[0.19]hrs,
                      RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
*#-----------------|---------------GOODALL SITE----------------------------------|
*#-----------------|-------------------------------------------------------------|
CALIB STANDHYD        ID=[2], NHYD=["Goodall"], DT=[1](min), AREA=[2.91](ha),
                      XIMP=[0.56], TIMP=[0.70], DWF=[0](cms), LOSS=[2],
                      SCS curve number CN=[84],
                      Pervious   surfaces: IAper=[5.0](mm), SLPP=[0.5](%),
                                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                      Impervious surfaces: IAimp=[2.0](mm), SLPI=[0.5](%),
                                           LGI=[240](m), MNI=[0.013], SCI=[0](min)
                      RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|-------------------------------------------------------------|
ADD HYD               IDsum=[5], NHYD=["GdSum"], IDs to add=[1+2]
*#-----------------|-------------------------------------------------------------|
*#-----------------|--------- TOTAL DISCHARGE TO HIGH STREET ---------------------|
*#-----------------|-------------------------------------------------------------|
ADD HYD               IDsum=[3], NHYD=["HighTot"], IDs to add=[4+5]
*#-----------------|-------------------------------------------------------------|
*#------------------------------------ OUTLET: CAMBRIDGE STREET ------------------|
*#-----------------|-------------------------------------------------------------|
*#----------------------------------- R5 ----------------------------------------|
*#-----------------|-------------------------------------------------------------|
DESIGN STANDHYD       ID=[6], NHYD=["R5"], DT=[1]min, AREA=[0.16](ha),
                      XIMP=[0.56], TIMP=[0.70], DWF=[0](cms), LOSS=[2], CN=[84],
                      SLOPE=[0.5](%), RAINFALL=[ , , , , ](mm/hr), END=-1
*#-----------------|-------------------------------------------------------------|
*#------------------------------------ OUTLET: HOME DEPOT ------------------------|
*#---------------------------------------- SWM POND ------------------------------|
*#--------------------------------------- REVISED 201 ----------------------------|
*#-----------------|-------------------------------------------------------------|
CALIB STANDHYD        ID=[7], NHYD=["Rev201"], DT=[1](min), AREA=[2.50](ha),
                      XIMP=[0.9], TIMP=[0.9], DWF=[0](cms), LOSS=[2],
                      SCS curve number CN=[84],
                      Pervious   surfaces: IAper=[5.0](mm), SLPP=[2](%),
                                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                      Impervious surfaces: IAimp=[2](mm), SLPI=[1](%),
                                           LGI=[130](m), MNI=[0.013], SCI=[0](min)
                      RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|-------------------------------------------------------------|
*#*********************************************************************************
*#************************** 4 hour Chicago 5-year *******************************
*#*********************************************************************************
*#-----------------|-------------------------------------------------------------|
CHICAGO STORM         IUNITS=[2],  TD=[4](hrs), TPRAT=[0.333],  CSDT=[5](min),
                      ICASEcs=[2],
                      Enter ordinates of IDF curve below, at least seven points
                          TIME (min)     Intensity(mm/hr)
                             [5]            [130]
                             [10]           [90]
                             [15]           [77]
                             [30]           [50]
                             [60]           [33]
                             [120]          [21]
                             [360]          [8.8]
                             [720]          [4.7]
                             [1440]         [2.6]
                               -1             -1
*#-----------------|-------------------------------------------------------------|
*#------------------------------------ OUTLET: HIGH STREET -----------------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|---------------- EXTERNAL AREA #1 ----------------------------|
*#-----------------|-------------------------------------------------------------|
CALIB STANDHYD        ID=[1], NHYD=["EXT1"], DT=[1](min), AREA=[0.6](ha),
                      XIMP=[0.75], TIMP=[0.94], DWF=[0](cms), LOSS=[2],
                      SCS curve number CN=[84],
                      Pervious   surfaces: IAper=[5.0](mm), SLPP=[0.5](%),
                                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                      Impervious surfaces: IAimp=[2.0](mm), SLPI=[1.0](%),
                                           LGI=[120](m), MNI=[0.013], SCI=[0](min)
                      RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|-------------------------------------------------------------|
*#-----------------|------- SITE AREA CONTRIBUTING TO SWM FACILTY ----------------|
*#-----------------|-------------------------------------------------------------|
CALIB STANDHYD        ID=[2], NHYD=["AREA"], DT=[1](min), AREA=[15](ha),
                      XIMP=[0.68], TIMP=[0.85], DWF=[0](cms), LOSS=[2],
                      SCS curve number CN=[84],
                      Pervious   surfaces: IAper=[5](mm), SLPP=[0.5](%),
                                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                      Impervious surfaces: IAimp=[2](mm), SLPI=[0.5](%),
                                           LGI=[300](m), MNI=[0.013], SCI=[0](min)
                      RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|-------------------------------------------------------------|
ADD HYD               IDsum=[3], NHYD=["ToPond"], IDs to add=[1+2]
*#-----------------|-------------------------------------------------------------|
*#----------------------------------- B2 ----------------------------------------|
*#-----------------|-------------------------------------------------------------|
DESIGN STANDHYD       ID=[2], NHYD=["B2"], DT=[1]min, AREA=[0.73](ha),
                      XIMP=[0.68], TIMP=[0.85], DWF=[0](cms), LOSS=[2], CN=[84],
                      SLOPE=[0.5](%), RAINFALL=[ , , , , ](mm/hr), END=-1
*#-----------------|-------------------------------------------------------------|
ADD HYD               IDsum=[4], NHYD=["SumB2"], IDs to add=[2+3]
*#-----------------|-------------------------------------------------------------|
*#----------------------------------- C -----------------------------------------|
*#-----------------|-------------------------------------------------------------|
DESIGN STANDHYD       ID=[3], NHYD=["C"], DT=[1]min, AREA=[0.68](ha),
                      XIMP=[0.68], TIMP=[0.85], DWF=[0](cms), LOSS=[2], CN=[84],
                      SLOPE=[1.0](%), RAINFALL=[ , , , , ](mm/hr), END=-1
*#-----------------|-------------------------------------------------------------|
ADD HYD               IDsum=[1], NHYD=["SumC"], IDs to add=[3+4]
*#-----------------|-------------------------------------------------------------|
*#----------------------------------- R4 ----------------------------------------|
*#-----------------|-------------------------------------------------------------|
DESIGN STANDHYD       ID=[2], NHYD=["R4"], DT=[1]min, AREA=[0.48](ha),
                      XIMP=[0.56], TIMP=[0.70], DWF=[0](cms), LOSS=[2], CN=[84],
                      SLOPE=[0.5](%), RAINFALL=[ , , , , ](mm/hr), END=-1
*#-----------------|-------------------------------------------------------------|
ADD HYD               IDsum=[3], NHYD=["HighSt"], IDs to add=[1+2]
*#-----------------|-------------------------------------------------------------|
*#----------------------------------- B1 ----------------------------------------|
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD          ID=[2], NHYD=["B1"], DT=[1]min, AREA=[0.33](ha),
                      DWF=[0](cms),  CN/C=[84], IA=[5.0](mm),
                      N=[3], TP=[0.17]hrs,
                      RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
*#-----------------|---- TOTAL DISCHARGE TO HIGH STREET FROM SITE ---------------|
*#-----------------|-------------------------------------------------------------|
ADD HYD               IDsum=[4], NHYD=["SumB1"], IDs to add=[2+3]
*#-----------------|-------------------------------------------------------------|
*#-----------------|---------------- EXTERNAL AREA #2 ----------------------------|
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD          ID=[1], NHYD=["EXT2"], DT=[1]min, AREA=[1.9](ha),
                      DWF=[0](cms),  CN/C=[89], IA=[3.9](mm),
                      N=[3], TP=[0.19]hrs,
                      RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
*#-----------------|---------------GOODALL SITE----------------------------------|
*#-----------------|-------------------------------------------------------------|
CALIB STANDHYD        ID=[2], NHYD=["Goodall"], DT=[1](min), AREA=[2.91](ha),
                      XIMP=[0.56], TIMP=[0.70], DWF=[0](cms), LOSS=[2],
                      SCS curve number CN=[84],
                      Pervious   surfaces: IAper=[5.0](mm), SLPP=[0.5](%),
                                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                      Impervious surfaces: IAimp=[2.0](mm), SLPI=[0.5](%),
                                           LGI=[240](m), MNI=[0.013], SCI=[0](min)
                      RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|-------------------------------------------------------------|
ADD HYD               IDsum=[5], NHYD=["GdSum"], IDs to add=[1+2]
*#-----------------|-------------------------------------------------------------|
*#-----------------|--------- TOTAL DISCHARGE TO HIGH STREET ---------------------|
*#-----------------|-------------------------------------------------------------|
ADD HYD               IDsum=[3], NHYD=["HighTot"], IDs to add=[4+5]
*#-----------------|-------------------------------------------------------------|
*#------------------------------------ OUTLET: CAMBRIDGE STREET ------------------|
*#-----------------|-------------------------------------------------------------|
*#----------------------------------- R5 ----------------------------------------|
*#-----------------|-------------------------------------------------------------|
DESIGN STANDHYD       ID=[6], NHYD=["R5"], DT=[1]min, AREA=[0.16](ha),
                      XIMP=[0.56], TIMP=[0.70], DWF=[0](cms), LOSS=[2], CN=[84],
                      SLOPE=[0.5](%), RAINFALL=[ , , , , ](mm/hr), END=-1
*#-----------------|-------------------------------------------------------------|
*#------------------------------------ OUTLET: HOME DEPOT ------------------------|
*#---------------------------------------- SWM POND ------------------------------|
*#--------------------------------------- REVISED 201 ----------------------------|
*#-----------------|-------------------------------------------------------------|
CALIB STANDHYD        ID=[7], NHYD=["Rev201"], DT=[1](min), AREA=[2.50](ha),
                      XIMP=[0.9], TIMP=[0.9], DWF=[0](cms), LOSS=[2],
                      SCS curve number CN=[84],
                      Pervious   surfaces: IAper=[5.0](mm), SLPP=[2](%),
                                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                      Impervious surfaces: IAimp=[2](mm), SLPI=[1](%),
                                           LGI=[130](m), MNI=[0.013], SCI=[0](min)
                      RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|-------------------------------------------------------------|
*#*********************************************************************************
*#************************** 4 hour Chicago 25-year ******************************
*#*********************************************************************************
*#-----------------|-------------------------------------------------------------|
CHICAGO STORM         IUNITS=[2],  TD=[4](hrs), TPRAT=[0.333],  CSDT=[5](min),
                      ICASEcs=[2],
                      Enter ordinates of IDF curve below, at least seven points
                          TIME (min)     Intensity(mm/hr)
                             [5]            [180]
                             [10]           [120]
                             [15]           [105]
                             [30]           [67]
                             [60]           [46]
                             [120]          [28]
                             [360]          [13]
```

```
                              [720]         [6.5]
                              [1440]        [3.6]
                                 -1            -1
*#-----------------|-------------------------------------------------------|
*#------------------------------- OUTLET: HIGH STREET ---------------------|
*#-----------------|-------------------------------------------------------|
*#-----------------|---------------- EXTERNAL AREA #1 ---------------------|
*#-----------------|-------------------------------------------------------|
CALIB STANDHYD      ID=[1], NHYD=["EXT1"], DT=[1](min), AREA=[0.6](ha),
                    XIMP=[0.75], TIMP=[0.94], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[84],
                    Pervious   surfaces: IAper=[5.0](mm), SLPP=[0.5](%),
                                         LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2.0](mm), SLPI=[1.0](%),
                                         LGI=[120](m), MNI=[0.013], SCI=[0](min)
                    RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|-------------------------------------------------------|
*#-----------------|------- SITE AREA CONTRIBUTING TO SWM FACILTY ---------|
*#-----------------|-------------------------------------------------------|
CALIB STANDHYD      ID=[2], NHYD=["AREA"], DT=[1](min), AREA=[15](ha),
                    XIMP=[0.68], TIMP=[0.85], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[84],
                    Pervious   surfaces: IAper=[5](mm), SLPP=[0.5](%),
                                         LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2](mm), SLPI=[0.5](%),
                                         LGI=[300](m), MNI=[0.013], SCI=[0](min)
                    RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|-------------------------------------------------------|
ADD HYD             IDsum=[3], NHYD=["ToPond"], IDs to add=[1+2]
*#-----------------|-------------------------------------------------------|
*#------------------------------------------- B2 --------------------------|
*#-----------------|-------------------------------------------------------|
DESIGN STANDHYD     ID=[2], NHYD=["B2"], DT=[1]min, AREA=[0.73](ha),
                    XIMP=[0.68], TIMP=[0.85], DWF=[0](cms), LOSS=[2], CN=[84],
                    SLOPE=[0.5](%), RAINFALL=[ , , , , ](mm/hr), END=-1
*#-----------------|-------------------------------------------------------|
ADD HYD             IDsum=[4], NHYD=["SumB2"], IDs to add=[2+3]
*#-----------------|-------------------------------------------------------|
*#------------------------------------------- C ---------------------------|
*#-----------------|-------------------------------------------------------|
DESIGN STANDHYD     ID=[3], NHYD=["C"], DT=[1]min, AREA=[0.68](ha),
                    XIMP=[0.68], TIMP=[0.85], DWF=[0](cms), LOSS=[2], CN=[84],
                    SLOPE=[1.0](%), RAINFALL=[ , , , , ](mm/hr), END=-1
*#-----------------|-------------------------------------------------------|
ADD HYD             IDsum=[1], NHYD=["SumC"], IDs to add=[3+4]
*#-----------------|-------------------------------------------------------|
*#------------------------------------------- R4 --------------------------|
*#-----------------|-------------------------------------------------------|
DESIGN STANDHYD     ID=[2], NHYD=["R4"], DT=[1]min, AREA=[0.48](ha),
                    XIMP=[0.56], TIMP=[0.70], DWF=[0](cms), LOSS=[2], CN=[84],
                    SLOPE=[0.5](%), RAINFALL=[ , , , , ](mm/hr), END=-1
*#-----------------|-------------------------------------------------------|
ADD HYD             IDsum=[3], NHYD=["HighSt"], IDs to add=[1+2]
*#-----------------|-------------------------------------------------------|
*#------------------------------------------- B1 --------------------------|
*#-----------------|-------------------------------------------------------|
CALIB NASHYD        ID=[2], NHYD=["B1"], DT=[1]min, AREA=[0.33](ha),
                    DWF=[0](cms),  CN/C=[84], IA=[5.0](mm),
                    N=[3], TP=[0.17]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------|
*#-----------------|---- TOTAL DISCHARGE TO HIGH STREET FROM SITE ---------|
*#-----------------|-------------------------------------------------------|
ADD HYD             IDsum=[4], NHYD=["SumB1"], IDs to add=[2+3]
*#-----------------|-------------------------------------------------------|
*#-----------------|---------------- EXTERNAL AREA #2 ---------------------|
*#-----------------|-------------------------------------------------------|
CALIB NASHYD        ID=[1], NHYD=["EXT2"], DT=[1]min, AREA=[1.9](ha),
                    DWF=[0](cms),  CN/C=[89], IA=[3.9](mm),
                    N=[3], TP=[0.19]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------|
*#-----------------|---------------GOODALL SITE----------------------------|
*#-----------------|-------------------------------------------------------|
CALIB STANDHYD      ID=[2], NHYD=["Goodall"], DT=[1](min), AREA=[2.91](ha),
                    XIMP=[0.56], TIMP=[0.70], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[84],
                    Pervious   surfaces: IAper=[5.0](mm), SLPP=[0.5](%),
                                         LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2.0](mm), SLPI=[0.5](%),
                                         LGI=[240](m), MNI=[0.013], SCI=[0](min)
                    RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|-------------------------------------------------------|
ADD HYD             IDsum=[5], NHYD=["GdSum"], IDs to add=[1+2]
*#-----------------|-------------------------------------------------------|
*#-----------------|--------- TOTAL DISCHARGE TO HIGH STREET --------------|
*#-----------------|-------------------------------------------------------|
ADD HYD             IDsum=[3], NHYD=["HighTot"], IDs to add=[4+5]
*#-----------------|-------------------------------------------------------|
*#---------------------------- OUTLET: CAMBRIDGE STREET --------------------|
*#-----------------|-------------------------------------------------------|
*#------------------------------------------- R5 --------------------------|
*#-----------------|-------------------------------------------------------|
DESIGN STANDHYD     ID=[6], NHYD=["R5"], DT=[1]min, AREA=[0.16](ha),
                    XIMP=[0.56], TIMP=[0.70], DWF=[0](cms), LOSS=[2], CN=[84],
                    SLOPE=[0.5](%), RAINFALL=[ , , , , ](mm/hr), END=-1
*#-----------------|-------------------------------------------------------|
*#---------------------------- OUTLET: HOME DEPOT --------------------------|
*#-------------------------------- SWM POND --------------------------------|
*#-------------------------------- REVISED 201 -----------------------------|
*#-----------------|-------------------------------------------------------|
CALIB STANDHYD      ID=[7], NHYD=["Rev201"], DT=[1](min), AREA=[2.50](ha),
                    XIMP=[0.9], TIMP=[0.9], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[84],
                    Pervious   surfaces: IAper=[5.0](mm), SLPP=[2](%),
                                         LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2](mm), SLPI=[1](%),
                                         LGI=[130](m), MNI=[0.013], SCI=[0](min)
                    RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|-------------------------------------------------------|
*#*************************************************************************
*#---------------------------- 4 hour Chicago 100-year ---------------------|
*#*************************************************************************
*#-----------------|-------------------------------------------------------|
CHICAGO STORM       IUNITS=[2],  TD=[4](hrs), TPRAT=[0.333],  CSDT=[5](min),
                    ICASEcs=[2],
                    Enter ordinates of IDF curve below, at least seven points
                        TIME (min)     Intensity(mm/hr)
                           [5]           [215]
                           [10]          [145]
                           [15]          [125]
                           [30]          [82]
                           [60]          [56]
                           [120]         [34]
                           [360]         [16]
                           [720]         [8.0]
                           [1440]        [4.5]
                              -1            -1
*#-----------------|-------------------------------------------------------|
*#------------------------------- OUTLET: HIGH STREET ---------------------|
*#-----------------|-------------------------------------------------------|
*#-----------------|---------------- EXTERNAL AREA #1 ---------------------|
*#-----------------|-------------------------------------------------------|
CALIB STANDHYD      ID=[1], NHYD=["EXT1"], DT=[1](min), AREA=[0.6](ha),
                    XIMP=[0.75], TIMP=[0.94], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[84],
                    Pervious   surfaces: IAper=[5.0](mm), SLPP=[0.5](%),
                                         LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2.0](mm), SLPI=[1.0](%),
                                         LGI=[120](m), MNI=[0.013], SCI=[0](min)
                    RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|-------------------------------------------------------|
*#-----------------|------- SITE AREA CONTRIBUTING TO SWM FACILTY ---------|
*#-----------------|-------------------------------------------------------|
CALIB STANDHYD      ID=[2], NHYD=["AREA"], DT=[1](min), AREA=[15](ha),
                    XIMP=[0.68], TIMP=[0.85], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[84],
                    Pervious   surfaces: IAper=[5](mm), SLPP=[0.5](%),
                                         LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2](mm), SLPI=[0.5](%),
                                         LGI=[300](m), MNI=[0.013], SCI=[0](min)
                    RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|-------------------------------------------------------|
ADD HYD             IDsum=[3], NHYD=["ToPond"], IDs to add=[1+2]
*#-----------------|-------------------------------------------------------|
*#------------------------------------------- B2 --------------------------|
*#-----------------|-------------------------------------------------------|
DESIGN STANDHYD     ID=[2], NHYD=["B2"], DT=[1]min, AREA=[0.73](ha),
                    XIMP=[0.68], TIMP=[0.85], DWF=[0](cms), LOSS=[2], CN=[84],
                    SLOPE=[0.5](%), RAINFALL=[ , , , , ](mm/hr), END=-1
*#-----------------|-------------------------------------------------------|
ADD HYD             IDsum=[4], NHYD=["SumB2"], IDs to add=[2+3]
*#-----------------|-------------------------------------------------------|
*#------------------------------------------- C ---------------------------|
*#-----------------|-------------------------------------------------------|
DESIGN STANDHYD     ID=[3], NHYD=["C"], DT=[1]min, AREA=[0.68](ha),
                    XIMP=[0.68], TIMP=[0.85], DWF=[0](cms), LOSS=[2], CN=[84],
                    SLOPE=[1.0](%), RAINFALL=[ , , , , ](mm/hr), END=-1
*#-----------------|-------------------------------------------------------|
ADD HYD             IDsum=[1], NHYD=["SumC"], IDs to add=[3+4]
*#-----------------|-------------------------------------------------------|
*#------------------------------------------- R4 --------------------------|
*#-----------------|-------------------------------------------------------|
DESIGN STANDHYD     ID=[2], NHYD=["R4"], DT=[1]min, AREA=[0.48](ha),
                    XIMP=[0.56], TIMP=[0.70], DWF=[0](cms), LOSS=[2], CN=[84],
                    SLOPE=[0.5](%), RAINFALL=[ , , , , ](mm/hr), END=-1
*#-----------------|-------------------------------------------------------|
ADD HYD             IDsum=[3], NHYD=["HighSt"], IDs to add=[1+2]
*#-----------------|-------------------------------------------------------|
*#------------------------------------------- B1 --------------------------|
*#-----------------|-------------------------------------------------------|
CALIB NASHYD        ID=[2], NHYD=["B1"], DT=[1]min, AREA=[0.33](ha),
                    DWF=[0](cms),  CN/C=[84], IA=[5.0](mm),
                    N=[3], TP=[0.17]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------|
*#-----------------|---- TOTAL DISCHARGE TO HIGH STREET FROM SITE ---------|
*#-----------------|-------------------------------------------------------|
ADD HYD             IDsum=[4], NHYD=["SumB1"], IDs to add=[2+3]
*#-----------------|-------------------------------------------------------|
*#-----------------|---------------- EXTERNAL AREA #2 ---------------------|
*#-----------------|-------------------------------------------------------|
CALIB NASHYD        ID=[1], NHYD=["EXT2"], DT=[1]min, AREA=[1.9](ha),
                    DWF=[0](cms),  CN/C=[89], IA=[3.9](mm),
                    N=[3], TP=[0.19]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------|
*#-----------------|---------------GOODALL SITE----------------------------|
*#-----------------|-------------------------------------------------------|
CALIB STANDHYD      ID=[2], NHYD=["Goodall"], DT=[1](min), AREA=[2.91](ha),
                    XIMP=[0.56], TIMP=[0.70], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[84],
                    Pervious   surfaces: IAper=[5.0](mm), SLPP=[0.5](%),
                                         LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2.0](mm), SLPI=[0.5](%),
                                         LGI=[240](m), MNI=[0.013], SCI=[0](min)
                    RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|-------------------------------------------------------|
ADD HYD             IDsum=[5], NHYD=["GdSum"], IDs to add=[1+2]
*#-----------------|-------------------------------------------------------|
*#-----------------|--------- TOTAL DISCHARGE TO HIGH STREET --------------|
*#-----------------|-------------------------------------------------------|
ADD HYD             IDsum=[3], NHYD=["HighTot"], IDs to add=[4+5]
*#-----------------|-------------------------------------------------------|
*#---------------------------- OUTLET: CAMBRIDGE STREET --------------------|
*#-----------------|-------------------------------------------------------|
*#------------------------------------------- R5 --------------------------|
*#-----------------|-------------------------------------------------------|
DESIGN STANDHYD     ID=[6], NHYD=["R5"], DT=[1]min, AREA=[0.16](ha),
                    XIMP=[0.56], TIMP=[0.70], DWF=[0](cms), LOSS=[2], CN=[84],
                    SLOPE=[0.5](%), RAINFALL=[ , , , , ](mm/hr), END=-1
*#-----------------|-------------------------------------------------------|
*#---------------------------- OUTLET: HOME DEPOT --------------------------|
*#-------------------------------- SWM POND --------------------------------|
*#-------------------------------- REVISED 201 -----------------------------|
*#-----------------|-------------------------------------------------------|
CALIB STANDHYD      ID=[7], NHYD=["Rev201"], DT=[1](min), AREA=[2.50](ha),
                    XIMP=[0.9], TIMP=[0.9], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[84],
                    Pervious   surfaces: IAper=[5.0](mm), SLPP=[2](%),
                                         LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2](mm), SLPI=[1](%),
                                         LGI=[130](m), MNI=[0.013], SCI=[0](min)
                    RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|-------------------------------------------------------|
*#*************************************************************************
*#---------------------------- REGIONAL EVENT ------------------------------|
*#*************************************************************************
*#-----------------|-------------------------------------------------------|
READ STORM          STORM_FILENAME=["tim.STM"]
*#-----------------|-------------------------------------------------------|
*#------------------------------- OUTLET: HIGH STREET ---------------------|
*#-----------------|-------------------------------------------------------|
*#-----------------|---------------- EXTERNAL AREA #1 ---------------------|
*#-----------------|-------------------------------------------------------|
CALIB STANDHYD      ID=[1], NHYD=["EXT1"], DT=[1](min), AREA=[0.6](ha),
                    XIMP=[0.75], TIMP=[0.94], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[84],
                    Pervious   surfaces: IAper=[5.0](mm), SLPP=[0.5](%),
                                         LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2.0](mm), SLPI=[1.0](%),
                                         LGI=[120](m), MNI=[0.013], SCI=[0](min)
                    RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|-------------------------------------------------------|
*#-----------------|------- SITE AREA CONTRIBUTING TO SWM FACILTY ---------|
*#-----------------|-------------------------------------------------------|
CALIB STANDHYD      ID=[2], NHYD=["AREA"], DT=[1](min), AREA=[15](ha),
                    XIMP=[0.68], TIMP=[0.85], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[84],
                    Pervious   surfaces: IAper=[5](mm), SLPP=[0.5](%),
                                         LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2](mm), SLPI=[0.5](%),
                                         LGI=[300](m), MNI=[0.013], SCI=[0](min)
                    RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|-------------------------------------------------------|
ADD HYD             IDsum=[3], NHYD=["ToPond"], IDs to add=[1+2]
*#-----------------|-------------------------------------------------------|
*#------------------------------------------- B2 --------------------------|
*#-----------------|-------------------------------------------------------|
DESIGN STANDHYD     ID=[2], NHYD=["B2"], DT=[1]min, AREA=[0.73](ha),
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00541>                      XIMP=[0.68], TIMP=[0.85], DWF=[0](cms), LOSS=[2], CN=[84],
00542>                      SLOPE=[0.5](%), RAINFALL=[ , , , , ](mm/hr), END=-1
00543> *#------------------|-------------------------------------------------------|
00544> ADD HYD              IDsum=[4], NHYD=["SumB2"], IDs to add=[2+3]
00545> *#------------------|-------------------------------------------------------|
00546> *#------------------------------- C -------------------------------------|
00547> *#------------------|-------------------------------------------------------|
00548> DESIGN STANDHYD      ID=[3], NHYD=["C"], DT=[1]min, AREA=[0.68](ha),
00549>                      XIMP=[0.68], TIMP=[0.85], DWF=[0](cms), LOSS=[2], CN=[84],
00550>                      SLOPE=[1.0](%), RAINFALL=[ , , , , ](mm/hr), END=-1
00551> *#------------------|-------------------------------------------------------|
00552> ADD HYD              IDsum=[1], NHYD=["SumC"], IDs to add=[3+4]
00553> *#------------------|-------------------------------------------------------|
00554> *#------------------------------- R4 ------------------------------------|
00555> *#------------------|-------------------------------------------------------|
00556> DESIGN STANDHYD      ID=[2], NHYD=["R4"], DT=[1]min, AREA=[0.48](ha),
00557>                      XIMP=[0.56], TIMP=[0.70], DWF=[0](cms), LOSS=[2], CN=[84],
00558>                      SLOPE=[0.5](%), RAINFALL=[ , , , , ](mm/hr), END=-1
00559> *#------------------|-------------------------------------------------------|
00560> ADD HYD              IDsum=[3], NHYD=["HighSt"], IDs to add=[1+2]
00561> *#------------------|-------------------------------------------------------|
00562> *#------------------------------- B1 ------------------------------------|
00563> *#------------------|-------------------------------------------------------|
00564> CALIB NASHYD         ID=[2], NHYD=["B1"], DT=[1]min, AREA=[0.33](ha),
00565>                      DWF=[0](cms),  CN/C=[84], IA=[5.0](mm),
00566>                      N=[3], TP=[0.17]hrs,
00567>                      RAINFALL=[ , , , , ](mm/hr),  END=-1
00568> *#------------------|-------------------------------------------------------|
00569> *#------------------|---- TOTAL DISCHARGE TO HIGH STREET FROM SITE ----------|
00570> *#------------------|-------------------------------------------------------|
00571> ADD HYD              IDsum=[4], NHYD=["SumB1"], IDs to add=[2+3]
00572> *#------------------|-------------------------------------------------------|
00573> *#------------------|---------- EXTERNAL AREA #2 ----------------------------|
00574> *#------------------|-------------------------------------------------------|
00575> CALIB NASHYD         ID=[1], NHYD=["EXT2"], DT=[1]min, AREA=[1.9](ha),
00576>                      DWF=[0](cms),  CN/C=[89], IA=[3.9](mm),
00577>                      N=[3], TP=[0.19]hrs,
00578>                      RAINFALL=[ , , , , ](mm/hr),  END=-1
00579> *#------------------|-------------------------------------------------------|
00580> *#------------------|----------GOODALL SITE--------------------------------|
00581> *#------------------|-------------------------------------------------------|
00582> CALIB STANDHYD       ID=[2], NHYD=["Goodall"], DT=[1](min), AREA=[2.91](ha),
00583>                      XIMP=[0.56], TIMP=[0.70], DWF=[0](cms), LOSS=[2],
00584>                      SCS curve number CN=[84],
00585>                      Pervious   surfaces: IAper=[5.0](mm), SLPP=[0.5](%),
00586>                                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
00587>                      Impervious surfaces: IAimp=[2.0](mm), SLPI=[0.5](%),
00588>                                           LGI=[240](m), MNI=[0.013], SCI=[0](min)
00589>                      RAINFALL=[ , , , , ](mm/hr) ,  END=-1
00590> *#------------------|-------------------------------------------------------|
00591> ADD HYD              IDsum=[5], NHYD=["GdSum"], IDs to add=[1+2]
00592> *#------------------|-------------------------------------------------------|
00593> *#------------------|--------- TOTAL DISCHARGE TO HIGH STREET ----------------|
00594> *#------------------|-------------------------------------------------------|
00595> ADD HYD              IDsum=[3], NHYD=["HighTot"], IDs to add=[4+5]
00596> *#------------------|-------------------------------------------------------|
00597> *#------------------------- OUTLET: CAMBRIDGE STREET ----------------------|
00598> *#------------------|-------------------------------------------------------|
00599> *#------------------------------- R5 ------------------------------------|
00600> *#------------------|-------------------------------------------------------|
00601> DESIGN STANDHYD      ID=[6], NHYD=["R5"], DT=[1]min, AREA=[0.16](ha),
00602>                      XIMP=[0.56], TIMP=[0.70], DWF=[0](cms), LOSS=[2], CN=[84],
00603>                      SLOPE=[0.5](%), RAINFALL=[ , , , , ](mm/hr), END=-1
00604> *#------------------|-------------------------------------------------------|
00605> *#------------------------ OUTLET: HOME DEPOT ----------------------------|
00606> *#------------------------------ SWM POND -------------------------------|
00607> *#------------------------------ REVISED 201 ----------------------------|
00608> *#------------------|-------------------------------------------------------|
00609> CALIB STANDHYD       ID=[7], NHYD=["Rev201"], DT=[1](min), AREA=[2.50](ha),
00610>                      XIMP=[0.9], TIMP=[0.9], DWF=[0](cms), LOSS=[2],
00611>                      SCS curve number CN=[84],
00612>                      Pervious   surfaces: IAper=[5.0](mm), SLPP=[2](%),
00613>                                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
00614>                      Impervious surfaces: IAimp=[2](mm), SLPI=[1](%),
00615>                                           LGI=[130](m), MNI=[0.013], SCI=[0](min)
00616>                      RAINFALL=[ , , , , ](mm/hr) ,  END=-1
00617> *#------------------|-------------------------------------------------------|
00618> FINISH
00619>
```

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

   SSSSS  W   W  M   M  H   H  Y   Y  M   M  OOO        999   999    =========
   S      W W W  MM MM  H   H   Y Y   MM MM  O   O      9   9 9   9
   SSSSS  W W W  M M M  HHHHH    Y    M M M  O   O  ##  9   9 9   9   Ver  4.05
       S   W W   M   M  H   H    Y    M   M  O   O       9999  9999   Sept 2011
   SSSSS   W W   M   M  H   H    Y    M   M  OOO            9     9   =========
                                                       9   9 9   9   # 3737016
        StormWater Management HYdrologic Model           999   999    =========

 *****************************************************************************
 ***************************** SWMHYMO Ver/4.05 ******************************
 *********   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  :     10            *********
 *********            Max. number of rainfall points: 105408            *********
 *********            Max. number of flow points    : 105408            *********
 *****************************************************************************

 ***** DESCRIPTION SUMMARY TABLE HEADERS (units depend on METOUT in START) *****
 *****-------------------------------------------------------------------*****
 *****      ID:  Hydrograph IDentification numbers, (1-10).              *****
 *****    NHYD:  Hydrograph reference numbers, (6 digits or characters). *****
 *****    AREA:  Drainage area associated with hydrograph, (ac.) or (ha.).*****
 ***** QPEAK:  Peak flow of simulated hydrograph, (ft^3/s) or (m^3/s).   *****
 ***** TpeakDate_hh:mm is the date and time of the peak flow.            *****
 *****    R.V.:  Runoff Volume of simulated hydrograph, (in) or (mm).    *****
 *****    R.C.:  Runoff Coefficient of simulated hydrograph, (ratio).    *****
 *****       *:  see WARNING or NOTE message printed at end of run.      *****
 *****      **:  see  ERROR  message printed at end of run.              *****
 *****************************************************************************
 *****************************************************************************

 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

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

 *********************    S U M M A R Y   O U T P U T    *********************
 *****************************************************************************
 *          DATE: 2015-04-09      TIME: 09:29:51      RUN COUNTER: 000143     *
 *****************************************************************************
 * Input   filename: C:\SWMHYMO\THIRDH-1\UNCONT-1\UncCHI4.DAT                 *
 * Output  filename: C:\SWMHYMO\THIRDH-1\UNCONT-1\UncCHI4.out                 *
 * Summary filename: C:\SWMHYMO\THIRDH-1\UNCONT-1\UncCHI4.sum                 *
 * User comments:                                                             *
 * 1:_________________________________________________________________________*
 * 2:_________________________________________________________________________*
 * 3:_________________________________________________________________________*
 *****************************************************************************


#*****************************************************************************
#  Project Name: [West End Commercial, Collingwood]    Project Number: [183-269
#  Date         : April 9, 2015
#  Modeller     : [T. MacDougall]
#  Company      : CF Crozier & Associates Inc.
#  License #    :  3737016
#*****************************************************************************
#   Uncontrolled Site Conditions - no ponds
#
#   Rainfall Data:  Storms are the SCS Volumes from MTO Design Chart 1.01(e)
#   District 5: Owen Sound, Basins West of and including Collingwood.
#-----------------|-----------------------------------------------------------|
 RUN:COMMAND#
 001:0001----------------------------------------------------------------------
      START
       [TZERO =     .00 hrs on        0]
       [METOUT=   2    (1=imperial, 2=metric output)]
       [NSTORM=   0 ]
       [NRUN  =   1 ]
#-----------------|-----------------------------------------------------------|
#*****************************************************************************
#                                  25mm Event
#*****************************************************************************
#-----------------|-----------------------------------------------------------|
 001:0002----------------------------------------------------------------------
      CHICAGO STORM
       [SDT= 5.00:SDUR=   4.00:PTOT=  24.99]
       [A/B/C= 568.700/   6.662/    .819]
#-----------------|-----------------------------------------------------------|
#----------------------------- OUTLET: HIGH STREET ---------------------------|
#-----------------|-----------------------------------------------------------|
#-----------------|---------------- EXTERNAL AREA #1 -------------------------|
#-----------------|-----------------------------------------------------------|
 001:0003---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
      CALIB STANDHYD     01:EXT1            .60      .079 No_date    1:21   21.24
       [XIMP=.75:TIMP=.94]
       [LOSS= 2 :CN= 84.0]
       [Pervious     area: IAper= 5.00:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 2.00:SLPI=1.00:LGI= 120.:MNI=.013:SCI=   .0]
#-----------------|-----------------------------------------------------------|
#-----------------|------- SITE AREA CONTRIBUTING TO SWM FACILTY -------------|
#-----------------|-----------------------------------------------------------|
 001:0004---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
      CALIB STANDHYD     02:AREA          15.00     1.250 No_date    1:25   19.25
       [XIMP=.68:TIMP=.85]
       [LOSS= 2 :CN= 84.0]
       [Pervious     area: IAper= 5.00:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 2.00:SLPI= .50:LGI= 300.:MNI=.013:SCI=   .0]
#-----------------|-----------------------------------------------------------|
 001:0005---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
      ADD HYD            01:EXT1            .60      .079 No_date    1:21   21.24
                       + 02:AREA          15.00     1.250 No_date    1:25   19.25
       [DT= 1.00]  SUM=  03:ToPond        15.60     1.309 No_date    1:25   19.33
#-----------------|-----------------------------------------------------------|
#-------------------------------------- B2 -----------------------------------|
#-----------------|-----------------------------------------------------------|
 001:0006---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
      DESIGN STANDHYD    02:B2              .73      .089 No_date    1:21   20.47
       [XIMP=.68:TIMP=.85]
       [SLP= .50:DT= 1.00]
       [LOSS= 2 :CN= 84.0]
#-----------------|-----------------------------------------------------------|
 001:0007---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
      ADD HYD            02:B2              .73      .089 No_date    1:21   20.47
                       + 03:ToPond        15.60     1.309 No_date    1:25   19.33
       [DT= 1.00]  SUM=  04:SumB2         16.33     1.371 No_date    1:25   19.38
#-----------------|-----------------------------------------------------------|
#-------------------------------------- C ------------------------------------|
#-----------------|-----------------------------------------------------------|
 001:0008---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
      DESIGN STANDHYD    03:C               .68      .090 No_date    1:20   20.47
       [XIMP=.68:TIMP=.85]
       [SLP=1.00:DT= 1.00]
       [LOSS= 2 :CN= 84.0]
#-----------------|-----------------------------------------------------------|
 001:0009---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
      ADD HYD            03:C               .68      .090 No_date    1:20   20.47
                       + 04:SumB2         16.33     1.371 No_date    1:25   19.38
       [DT= 1.00]  SUM=  01:SumC          17.01     1.426 No_date    1:25   19.43
#-----------------|-----------------------------------------------------------|
#-------------------------------------- R4 -----------------------------------|
#-----------------|-----------------------------------------------------------|
 001:0010---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
      DESIGN STANDHYD    02:R4              .48      .051 No_date    1:20   17.98
       [XIMP=.56:TIMP=.70]
       [SLP= .50:DT= 1.00]
       [LOSS= 2 :CN= 84.0]
#-----------------|-----------------------------------------------------------|
 001:0011---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
      ADD HYD            01:SumC          17.01     1.426 No_date    1:25   19.43
                       + 02:R4              .48      .051 No_date    1:20   17.98
       [DT= 1.00]  SUM=  03:HighSt        17.49     1.457 No_date    1:25   19.39
#-----------------|-----------------------------------------------------------|
#-------------------------------------- B1 -----------------------------------|
#-----------------|-----------------------------------------------------------|
 001:0012---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
      CALIB NASHYD       02:B1              .33      .006 No_date    1:35    5.84
       [CN= 84.0: N= 3.00]
       [Tp=  .17:DT= 1.00]
#-----------------|-----------------------------------------------------------|
#-----------------|---- TOTAL DISCHARGE TO HIGH STREET FROM SITE -------------|
#-----------------|-----------------------------------------------------------|
 001:0013---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
      ADD HYD            02:B1              .33      .006 No_date    1:35    5.84
                       + 03:HighSt        17.49     1.457 No_date    1:25   19.39
       [DT= 1.00]  SUM=  04:SumB1         17.82     1.461 No_date    1:25   19.13
#-----------------|-----------------------------------------------------------|
#-----------------|---------------- EXTERNAL AREA #2 -------------------------|
#-----------------|-----------------------------------------------------------|
 001:0014---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
      CALIB NASHYD       01:EXT2           1.90      .051 No_date    1:36    8.48
       [CN= 89.0: N= 3.00]
       [Tp=  .19:DT= 1.00]
#-----------------|-----------------------------------------------------------|
#-----------------|-------------GOODALL SITE----------------------------------|
#-----------------|-----------------------------------------------------------|
 001:0015---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
      CALIB STANDHYD     02:Goodall        2.91      .213 No_date    1:24   16.63
       [XIMP=.56:TIMP=.70]
       [LOSS= 2 :CN= 84.0]
       [Pervious     area: IAper= 5.00:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 2.00:SLPI= .50:LGI= 240.:MNI=.013:SCI=   .0]
#-----------------|-----------------------------------------------------------|
 001:0016---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
      ADD HYD            01:EXT2           1.90      .051 No_date    1:36    8.48
                       + 02:Goodall        2.91      .213 No_date    1:24   16.63
       [DT= 1.00]  SUM=  05:GdSum          4.81      .240 No_date    1:25   13.41
#-----------------|-----------------------------------------------------------|
#-----------------|-------- TOTAL DISCHARGE TO HIGH STREET -------------------|
#-----------------|-----------------------------------------------------------|
 001:0017---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
      ADD HYD            04:SumB1         17.82     1.461 No_date    1:25   19.13
                       + 05:GdSum          4.81      .240 No_date    1:25   13.41
       [DT= 1.00]  SUM=  03:HighTot       22.63     1.701 No_date    1:25   17.92
#-----------------|-----------------------------------------------------------|
#------------------------- OUTLET: CAMBRIDGE STREET --------------------------|
#-----------------|-----------------------------------------------------------|
#-------------------------------------- R5 -----------------------------------|
#-----------------|-----------------------------------------------------------|
 001:0018---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
      DESIGN STANDHYD    06:R5              .16      .018 No_date    1:20   17.98
       [XIMP=.56:TIMP=.70]
       [SLP= .50:DT= 1.00]
       [LOSS= 2 :CN= 84.0]
#-----------------|-----------------------------------------------------------|
#------------------------- OUTLET: HOME DEPOT --------------------------------|
#------------------------------  SWM POND  -----------------------------------|
#----------------------------- REVISED 201 -----------------------------------|
#-----------------|-----------------------------------------------------------|
 001:0019---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
      CALIB STANDHYD     07:Rev201         2.50      .377 No_date    1:21   21.28
       [XIMP=.90:TIMP=.90]
       [LOSS= 2 :CN= 84.0]
       [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 2.00:SLPI=1.00:LGI= 130.:MNI=.013:SCI=   .0]
#-----------------|-----------------------------------------------------------|
#*****************************************************************************
#************************ 4 hour Chicago 5-year ******************************
#*****************************************************************************
#-----------------|-----------------------------------------------------------|
 001:0020----------------------------------------------------------------------
      CHICAGO STORM
       [SDT= 5.00:SDUR=   4.00:PTOT=  46.10]
       [A/B/C=1081.402/   9.194/    .823: R=.9994]
#-----------------|-----------------------------------------------------------|
#----------------------------- OUTLET: HIGH STREET ---------------------------|
#-----------------|-----------------------------------------------------------|
#-----------------|---------------- EXTERNAL AREA #1 -------------------------|
#-----------------|-----------------------------------------------------------|
 001:0021---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
      CALIB STANDHYD     01:EXT1            .60      .143 No_date    1:21   41.99
       [XIMP=.75:TIMP=.94]
       [LOSS= 2 :CN= 84.0]
       [Pervious     area: IAper= 5.00:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 2.00:SLPI=1.00:LGI= 120.:MNI=.013:SCI=   .0]
#-----------------|-----------------------------------------------------------|
#-----------------|------- SITE AREA CONTRIBUTING TO SWM FACILTY -------------|
#-----------------|-----------------------------------------------------------|
 001:0022---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
      CALIB STANDHYD     02:AREA          15.00     2.429 No_date    1:25   39.21
       [XIMP=.68:TIMP=.85]
       [LOSS= 2 :CN= 84.0]
       [Pervious     area: IAper= 5.00:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 2.00:SLPI= .50:LGI= 300.:MNI=.013:SCI=   .0]
#-----------------|-----------------------------------------------------------|
 001:0023---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
      ADD HYD            01:EXT1            .60      .143 No_date    1:21   41.99
                       + 02:AREA          15.00     2.429 No_date    1:25   39.21
       [DT= 1.00]  SUM=  03:ToPond        15.60     2.544 No_date    1:24   39.31
#-----------------|-----------------------------------------------------------|
#-------------------------------------- B2 -----------------------------------|
#-----------------|-----------------------------------------------------------|
 001:0024---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
      DESIGN STANDHYD    02:B2              .73      .160 No_date    1:20   40.49
       [XIMP=.68:TIMP=.85]
       [SLP= .50:DT= 1.00]
       [LOSS= 2 :CN= 84.0]
#-----------------|-----------------------------------------------------------|
 001:0025---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
      ADD HYD            02:B2              .73      .160 No_date    1:20   40.49
                       + 03:ToPond        15.60     2.544 No_date    1:24   39.31
       [DT= 1.00]  SUM=  04:SumB2         16.33     2.661 No_date    1:24   39.37
#-----------------|-----------------------------------------------------------|
#-------------------------------------- C ------------------------------------|
```

```
#----------------|-------------------------------------------------------|
 001:0026---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     DESIGN STANDHYD    03:C               .68      .158 No_date    1:20   40.49
       [XIMP=.68:TIMP=.85]
       [SLP=1.00:DT= 1.00]
       [LOSS= 2 :CN= 84.0]
#----------------|-------------------------------------------------------|
 001:0027---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            03:C               .68      .158 No_date    1:20   40.49
                      + 04:SumB2          16.33    2.661 No_date    1:24   39.37
       [DT= 1.00]  SUM= 01:SumC           17.01    2.771 No_date    1:24   39.41
#----------------|-------------------------------------------------------|
#------------------------------------ R4 --------------------------------|
#----------------|-------------------------------------------------------|
 001:0028---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     DESIGN STANDHYD    02:R4              .48      .088 No_date    1:20   36.82
       [XIMP=.56:TIMP=.70]
       [SLP= .50:DT= 1.00]
       [LOSS= 2 :CN= 84.0]
#----------------|-------------------------------------------------------|
 001:0029---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            01:SumC          17.01    2.771 No_date    1:24   39.41
                      + 02:R4              .48      .088 No_date    1:20   36.82
       [DT= 1.00]  SUM= 03:HighSt         17.49    2.833 No_date    1:24   39.34
#----------------|-------------------------------------------------------|
#------------------------------------ B1 --------------------------------|
#----------------|-------------------------------------------------------|
 001:0030---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       02:B1              .33      .021 No_date    1:34   18.87
       [CN= 84.0: N= 3.00]
       [Tp=  .17:DT= 1.00]
#----------------|-------------------------------------------------------|
#----------------|---- TOTAL DISCHARGE TO HIGH STREET FROM SITE ---------|
#----------------|-------------------------------------------------------|
 001:0031---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            02:B1              .33      .021 No_date    1:34   18.87
                      + 03:HighSt         17.49    2.833 No_date    1:24   39.34
       [DT= 1.00]  SUM= 04:SumB1          17.82    2.845 No_date    1:24   38.96
#----------------|-------------------------------------------------------|
#----------------|--------------- EXTERNAL AREA #2 ----------------------|
#----------------|-------------------------------------------------------|
 001:0032---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       01:EXT2           1.90      .153 No_date    1:34   24.19
       [CN= 89.0: N= 3.00]
       [Tp=  .19:DT= 1.00]
#----------------|-------------------------------------------------------|
#----------------|--------------GOODALL SITE----------------------------|
#----------------|-------------------------------------------------------|
 001:0033---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD     02:Goodall        2.91      .406 No_date    1:23   35.29
       [XIMP=.56:TIMP=.70]
       [LOSS= 2 :CN= 84.0]
       [Pervious    area: IAper= 5.00:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 2.00:SLPI= .50:LGI= 240.:MNI=.013:SCI=   .0]
#----------------|-------------------------------------------------------|
 001:0034---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            01:EXT2           1.90      .153 No_date    1:34   24.19
                      + 02:Goodall        2.91      .406 No_date    1:23   35.29
       [DT= 1.00]  SUM= 05:GdSum          4.81      .493 No_date    1:24   30.91
#----------------|-------------------------------------------------------|
#----------------|--------- TOTAL DISCHARGE TO HIGH STREET --------------|
#----------------|-------------------------------------------------------|
 001:0035---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            04:SumB1          17.82    2.845 No_date    1:24   38.96
                      + 05:GdSum          4.81      .493 No_date    1:24   30.91
       [DT= 1.00]  SUM= 03:HighTot        22.63    3.339 No_date    1:24   37.25
#----------------|-------------------------------------------------------|
#------------------------- OUTLET: CAMBRIDGE STREET ---------------------|
#----------------|-------------------------------------------------------|
#------------------------------------ R5 --------------------------------|
#----------------|-------------------------------------------------------|
 001:0036---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     DESIGN STANDHYD    06:R5              .16      .031 No_date    1:20   36.82
       [XIMP=.56:TIMP=.70]
       [SLP= .50:DT= 1.00]
       [LOSS= 2 :CN= 84.0]
#----------------|-------------------------------------------------------|
#------------------------- OUTLET: HOME DEPOT ---------------------------|
#------------------------------- SWM POND -------------------------------|
#------------------------------ REVISED 201 -----------------------------|
#----------------|-------------------------------------------------------|
 001:0037---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD     07:Rev201         2.50      .648 No_date    1:21   41.57
       [XIMP=.90:TIMP=.90]
       [LOSS= 2 :CN= 84.0]
       [Pervious    area: IAper= 5.00:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 2.00:SLPI=1.00:LGI= 130.:MNI=.013:SCI=   .0]
#----------------|-------------------------------------------------------|
#************************************************************************
#********************** 4 hour Chicago 25-year **************************
#************************************************************************
#----------------|-------------------------------------------------------|
 001:0038-----------------------------------------------------------------
     CHICAGO STORM
       [SDT= 5.00:SDUR=   4.00:PTOT=  63.85]
       [A/B/C=1416.634/   9.025/    .813: R=.9988]
#----------------|-------------------------------------------------------|
#--------------------------- OUTLET: HIGH STREET ------------------------|
#----------------|-------------------------------------------------------|
#----------------|-------------- EXTERNAL AREA #1 ----------------------|
#----------------|-------------------------------------------------------|
 001:0039---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD     01:EXT1            .60      .207 No_date    1:20   59.60
       [XIMP=.75:TIMP=.94]
       [LOSS= 2 :CN= 84.0]
       [Pervious    area: IAper= 5.00:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 2.00:SLPI=1.00:LGI= 120.:MNI=.013:SCI=   .0]
#----------------|-------------------------------------------------------|
#----------------|------- SITE AREA CONTRIBUTING TO SWM FACILTY ---------|
#----------------|-------------------------------------------------------|
 001:0040---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD     02:AREA          15.00    1.598 No_date    1:23   56.43
       [XIMP=.68:TIMP=.85]
       [LOSS= 2 :CN= 84.0]
       [Pervious    area: IAper= 5.00:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 2.00:SLPI= .50:LGI= 300.:MNI=.013:SCI=   .0]
#----------------|-------------------------------------------------------|
 001:0041---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            01:EXT1            .60      .207 No_date    1:20   59.60
                      + 02:AREA          15.00    1.598 No_date    1:23   56.43
       [DT= 1.00]  SUM= 03:ToPond         15.60    1.763 No_date    1:23   56.56
#----------------|-------------------------------------------------------|
#------------------------------------ B2 --------------------------------|
#----------------|-------------------------------------------------------|
 001:0042---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     DESIGN STANDHYD    02:B2              .73      .229 No_date    1:20   57.74
       [XIMP=.68:TIMP=.85]
       [SLP= .50:DT= 1.00]
       [LOSS= 2 :CN= 84.0]
#----------------|-------------------------------------------------------|
 001:0043---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            02:B2              .73      .229 No_date    1:20   57.74
                      + 03:ToPond         15.60    1.763 No_date    1:23   56.56
       [DT= 1.00]  SUM= 04:SumB2          16.33    1.939 No_date    1:23   56.61
#----------------|-------------------------------------------------------|
#------------------------------------ C ---------------------------------|
#----------------|-------------------------------------------------------|
 001:0044---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     DESIGN STANDHYD    03:C               .68      .226 No_date    1:20   57.74
       [XIMP=.68:TIMP=.85]
       [SLP=1.00:DT= 1.00]
       [LOSS= 2 :CN= 84.0]
#----------------|-------------------------------------------------------|
 001:0045---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            03:C               .68      .226 No_date    1:20   57.74
                      + 04:SumB2          16.33    3.939 No_date    1:23   56.61
       [DT= 1.00]  SUM= 01:SumC           17.01    4.106 No_date    1:23   56.65
#----------------|-------------------------------------------------------|
#------------------------------------ R4 --------------------------------|
#----------------|-------------------------------------------------------|
 001:0046---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     DESIGN STANDHYD    02:R4              .48      .127 No_date    1:20   53.43
       [XIMP=.56:TIMP=.70]
       [SLP= .50:DT= 1.00]
       [LOSS= 2 :CN= 84.0]
#----------------|-------------------------------------------------------|
 001:0047---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            01:SumC          17.01    4.106 No_date    1:23   56.65
                      + 02:R4              .48      .127 No_date    1:20   53.43
       [DT= 1.00]  SUM= 03:HighSt         17.49    4.200 No_date    1:23   56.57
#----------------|-------------------------------------------------------|
#------------------------------------ B1 --------------------------------|
#----------------|-------------------------------------------------------|
 001:0048---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       02:B1              .33      .037 No_date    1:33   32.29
       [CN= 84.0: N= 3.00]
       [Tp=  .17:DT= 1.00]
#----------------|-------------------------------------------------------|
#----------------|---- TOTAL DISCHARGE TO HIGH STREET FROM SITE ---------|
#----------------|-------------------------------------------------------|
 001:0049---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            02:B1              .33      .037 No_date    1:33   32.29
                      + 03:HighSt         17.49    4.200 No_date    1:23   56.57
       [DT= 1.00]  SUM= 04:SumB1          17.82    4.221 No_date    1:23   56.12
#----------------|-------------------------------------------------------|
#----------------|--------------- EXTERNAL AREA #2 ----------------------|
#----------------|-------------------------------------------------------|
 001:0050---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       01:EXT2           1.90      .254 No_date    1:34   39.34
       [CN= 89.0: N= 3.00]
       [Tp=  .19:DT= 1.00]
#----------------|-------------------------------------------------------|
#----------------|--------------GOODALL SITE----------------------------|
#----------------|-------------------------------------------------------|
 001:0051---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD     02:Goodall        2.91      .604 No_date    1:22   51.84
       [XIMP=.56:TIMP=.70]
       [LOSS= 2 :CN= 84.0]
       [Pervious    area: IAper= 5.00:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 2.00:SLPI= .50:LGI= 240.:MNI=.013:SCI=   .0]
#----------------|-------------------------------------------------------|
 001:0052---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            01:EXT2           1.90      .254 No_date    1:34   39.34
                      + 02:Goodall        2.91      .604 No_date    1:22   51.84
       [DT= 1.00]  SUM= 05:GdSum          4.81      .743 No_date    1:23   46.90
#----------------|-------------------------------------------------------|
#----------------|--------- TOTAL DISCHARGE TO HIGH STREET --------------|
#----------------|-------------------------------------------------------|
 001:0053---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            04:SumB1          17.82    4.221 No_date    1:23   56.12
                      + 05:GdSum          4.81      .743 No_date    1:23   46.90
       [DT= 1.00]  SUM= 03:HighTot        22.63    4.964 No_date    1:23   54.16
#----------------|-------------------------------------------------------|
#------------------------- OUTLET: CAMBRIDGE STREET ---------------------|
#----------------|-------------------------------------------------------|
#------------------------------------ R5 --------------------------------|
#----------------|-------------------------------------------------------|
 001:0054---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     DESIGN STANDHYD    06:R5              .16      .044 No_date    1:20   53.43
       [XIMP=.56:TIMP=.70]
       [SLP= .50:DT= 1.00]
       [LOSS= 2 :CN= 84.0]
#----------------|-------------------------------------------------------|
#------------------------- OUTLET: HOME DEPOT ---------------------------|
#------------------------------- SWM POND -------------------------------|
#------------------------------ REVISED 201 -----------------------------|
#----------------|-------------------------------------------------------|
 001:0055---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD     07:Rev201         2.50      .935 No_date    1:20   58.89
       [XIMP=.90:TIMP=.90]
       [LOSS= 2 :CN= 84.0]
       [Pervious    area: IAper= 5.00:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 2.00:SLPI=1.00:LGI= 130.:MNI=.013:SCI=   .0]
#----------------|-------------------------------------------------------|
#************************************************************************
#------------------------ 4 hour Chicago 100-year -----------------------|
#************************************************************************
#----------------|-------------------------------------------------------|
 001:0056-----------------------------------------------------------------
     CHICAGO STORM
       [SDT= 5.00:SDUR=   4.00:PTOT=  78.22]
       [A/B/C=1660.507/   9.012/    .805: R=.9989]
#----------------|-------------------------------------------------------|
#--------------------------- OUTLET: HIGH STREET ------------------------|
#----------------|-------------------------------------------------------|
#----------------|-------------- EXTERNAL AREA #1 ----------------------|
#----------------|-------------------------------------------------------|
 001:0057---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD     01:EXT1            .60      .256 No_date    1:20   73.90
       [XIMP=.75:TIMP=.94]
       [LOSS= 2 :CN= 84.0]
       [Pervious    area: IAper= 5.00:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 2.00:SLPI=1.00:LGI= 120.:MNI=.013:SCI=   .0]
#----------------|-------------------------------------------------------|
#----------------|------- SITE AREA CONTRIBUTING TO SWM FACILTY ---------|
#----------------|-------------------------------------------------------|
 001:0058---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD     02:AREA          15.00    4.562 No_date    1:23   70.52
       [XIMP=.68:TIMP=.85]
       [LOSS= 2 :CN= 84.0]
       [Pervious    area: IAper= 5.00:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 2.00:SLPI= .50:LGI= 300.:MNI=.013:SCI=   .0]
#----------------|-------------------------------------------------------|
 001:0059---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            01:EXT1            .60      .256 No_date    1:20   73.90
                      + 02:AREA          15.00    4.562 No_date    1:23   70.52
       [DT= 1.00]  SUM= 03:ToPond         15.60    4.765 No_date    1:23   70.65
#----------------|-------------------------------------------------------|
#------------------------------------ B2 --------------------------------|
#----------------|-------------------------------------------------------|
 001:0060---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     DESIGN STANDHYD    02:B2              .73      .284 No_date    1:20   71.83
       [XIMP=.68:TIMP=.85]
       [SLP= .50:DT= 1.00]
       [LOSS= 2 :CN= 84.0]
#----------------|-------------------------------------------------------|
 001:0061---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            02:B2              .73      .284 No_date    1:20   71.83
                      + 03:ToPond         15.60    4.765 No_date    1:23   70.65
       [DT= 1.00]  SUM= 04:SumB2          16.33    4.983 No_date    1:23   70.70
```

```
#----------------|-----------------------------------------------------|
#-------------------------------- C -----------------------------------|
#----------------|-----------------------------------------------------|
 001:0062---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     DESIGN STANDHYD    03:C                .68     .280 No_date    1:20    71.83
      [XIMP=.68:TIMP=.85]
      [SLP=1.00:DT= 1.00]
      [LOSS= 2 :CN= 84.0]
#----------------|-----------------------------------------------------|
 001:0063---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            03:C                .68     .280 No_date    1:20    71.83
                      + 04:SumB2          16.33    4.983 No_date    1:23    70.70
      [DT= 1.00]  SUM=  01:SumC           17.01    5.190 No_date    1:23    70.75
#----------------|-----------------------------------------------------|
#-------------------------------- R4 ----------------------------------|
#----------------|-----------------------------------------------------|
 001:0064---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     DESIGN STANDHYD    02:R4               .48     .157 No_date    1:20    67.15
      [XIMP=.56:TIMP=.70]
      [SLP= .50:DT= 1.00]
      [LOSS= 2 :CN= 84.0]
#----------------|-----------------------------------------------------|
 001:0065---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            01:SumC           17.01    5.190 No_date    1:23    70.75
                      + 02:R4               .48     .157 No_date    1:20    67.15
      [DT= 1.00]  SUM=  03:HighSt         17.49    5.308 No_date    1:23    70.65
#----------------|-----------------------------------------------------|
#------------------------------- B1 -----------------------------------|
#----------------|-----------------------------------------------------|
 001:0066---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       02:B1               .33     .051 No_date    1:32    44.09
      [CN= 84.0: N= 3.00]
      [Tp=  .17:DT= 1.00]
#----------------|-----------------------------------------------------|
#----------------|---- TOTAL DISCHARGE TO HIGH STREET FROM SITE -------|
#----------------|-----------------------------------------------------|
 001:0067---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            02:B1               .33     .051 No_date    1:32    44.09
                      + 03:HighSt         17.49    5.308 No_date    1:23    70.65
      [DT= 1.00]  SUM=  04:SumB1          17.82    5.339 No_date    1:23    70.16
#----------------|-----------------------------------------------------|
#----------------|--------------- EXTERNAL AREA #2 --------------------|
#----------------|-----------------------------------------------------|
 001:0068---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       01:EXT2            1.90     .337 No_date    1:33    52.25
      [CN= 89.0: N= 3.00]
      [Tp=  .19:DT= 1.00]
#----------------|-----------------------------------------------------|
#----------------|-------------GOODALL SITE----------------------------|
#----------------|-----------------------------------------------------|
 001:0069---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD     02:Goodall         2.91     .761 No_date    1:22    65.53
      [XIMP=.56:TIMP=.70]
      [LOSS= 2 :CN= 84.0]
      [Pervious     area: IAper= 5.00:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI= .50:LGI= 240.:MNI=.013:SCI=   .0]
#----------------|-----------------------------------------------------|
 001:0070---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            01:EXT2            1.90     .337 No_date    1:33    52.25
                      + 02:Goodall         2.91     .761 No_date    1:22    65.53
      [DT= 1.00]  SUM=  05:GdSum           4.81     .954 No_date    1:23    60.28
#----------------|-----------------------------------------------------|
#----------------|--------- TOTAL DISCHARGE TO HIGH STREET ------------|
#----------------|-----------------------------------------------------|
 001:0071---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            04:SumB1          17.82    5.339 No_date    1:23    70.16
                      + 05:GdSum           4.81     .954 No_date    1:23    60.28
      [DT= 1.00]  SUM=  03:HighTot        22.63    6.293 No_date    1:23    68.06
#----------------|-----------------------------------------------------|
#------------------------- OUTLET: CAMBRIDGE STREET -------------------|
#----------------|-----------------------------------------------------|
#-------------------------------- R5 ----------------------------------|
#----------------|-----------------------------------------------------|
 001:0072---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     DESIGN STANDHYD    06:R5               .16     .055 No_date    1:20    67.15
      [XIMP=.56:TIMP=.70]
      [SLP= .50:DT= 1.00]
      [LOSS= 2 :CN= 84.0]
#----------------|-----------------------------------------------------|
#------------------------- OUTLET: HOME DEPOT -------------------------|
#-----------------------------  SWM POND  -----------------------------|
#---------------------------- REVISED 201 -----------------------------|
#----------------|-----------------------------------------------------|
 001:0073---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD     07:Rev201          2.50    1.142 No_date    1:20    73.00
      [XIMP=.90:TIMP=.90]
      [LOSS= 2 :CN= 84.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI=1.00:LGI= 130.:MNI=.013:SCI=   .0]
#----------------|-----------------------------------------------------|
#*********************************************************************
#-------------------------------- REGIONAL EVENT ----------------------|
#*********************************************************************
#----------------|-----------------------------------------------------|
 001:0074-----------------------------------------------------------------
     READ STORM
      Filename = tim.STM
      Comment  =
      [SDT=60.00:SDUR= 12.00:PTOT= 193.00]
#----------------|-----------------------------------------------------|
#---------------------------- OUTLET: HIGH STREET ---------------------|
#----------------|-----------------------------------------------------|
#----------------|--------------- EXTERNAL AREA #1 --------------------|
#----------------|-----------------------------------------------------|
 001:0075---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD     01:EXT1             .60     .071 No_date    7:00   188.46
      [XIMP=.75:TIMP=.94]
      [LOSS= 2 :CN= 84.0]
      [Pervious     area: IAper= 5.00:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI=1.00:LGI= 120.:MNI=.013:SCI=   .0]
#----------------|-----------------------------------------------------|
#----------------|------- SITE AREA CONTRIBUTING TO SWM FACILTY -------|
#----------------|-----------------------------------------------------|
 001:0076---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD     02:AREA           15.00    1.742 No_date    7:00   184.40
      [XIMP=.68:TIMP=.85]
      [LOSS= 2 :CN= 84.0]
      [Pervious     area: IAper= 5.00:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI= .50:LGI= 300.:MNI=.013:SCI=   .0]
#----------------|-----------------------------------------------------|
 001:0077---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            01:EXT1             .60     .071 No_date    7:00   188.46
                      + 02:AREA           15.00    1.742 No_date    7:00   184.40
      [DT= 1.00]  SUM=  03:ToPond         15.60    1.814 No_date    7:00   184.56
#----------------|-----------------------------------------------------|
#------------------------------- B2 -----------------------------------|
#----------------|-----------------------------------------------------|
 001:0078---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     DESIGN STANDHYD    02:B2               .73     .086 No_date    7:00   185.74
      [XIMP=.68:TIMP=.85]
      [SLP= .50:DT= 1.00]
      [LOSS= 2 :CN= 84.0]
#----------------|-----------------------------------------------------|
 001:0079---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            02:B2               .73     .086 No_date    7:00   185.74
                      + 03:ToPond         15.60    1.814 No_date    7:00   184.56
      [DT= 1.00]  SUM=  04:SumB2          16.33    1.900 No_date    7:00   184.61
#----------------|-----------------------------------------------------|
#-------------------------------- C -----------------------------------|
#----------------|-----------------------------------------------------|
 001:0080---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     DESIGN STANDHYD    03:C                .68     .080 No_date    7:00   185.74
      [XIMP=.68:TIMP=.85]
      [SLP=1.00:DT= 1.00]
      [LOSS= 2 :CN= 84.0]
#----------------|-----------------------------------------------------|
 001:0081---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            03:C                .68     .080 No_date    7:00   185.74
                      + 04:SumB2          16.33    1.900 No_date    7:00   184.61
      [DT= 1.00]  SUM=  01:SumC           17.01    1.980 No_date    7:00   184.66
#----------------|-----------------------------------------------------|
#-------------------------------- R4 ----------------------------------|
#----------------|-----------------------------------------------------|
 001:0082---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     DESIGN STANDHYD    02:R4               .48     .055 No_date    7:00   179.72
      [XIMP=.56:TIMP=.70]
      [SLP= .50:DT= 1.00]
      [LOSS= 2 :CN= 84.0]
#----------------|-----------------------------------------------------|
 001:0083---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            01:SumC           17.01    1.980 No_date    7:00   184.66
                      + 02:R4               .48     .055 No_date    7:00   179.72
      [DT= 1.00]  SUM=  03:HighSt         17.49    2.035 No_date    7:00   184.52
#----------------|-----------------------------------------------------|
#------------------------------- B1 -----------------------------------|
#----------------|-----------------------------------------------------|
 001:0084---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       02:B1               .33     .035 No_date    7:00   149.52
      [CN= 84.0: N= 3.00]
      [Tp=  .17:DT= 1.00]
#----------------|-----------------------------------------------------|
#----------------|---- TOTAL DISCHARGE TO HIGH STREET FROM SITE -------|
#----------------|-----------------------------------------------------|
 001:0085---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            02:B1               .33     .035 No_date    7:00   149.52
                      + 03:HighSt         17.49    2.035 No_date    7:00   184.52
      [DT= 1.00]  SUM=  04:SumB1          17.82    2.070 No_date    7:00   183.87
#----------------|-----------------------------------------------------|
#----------------|--------------- EXTERNAL AREA #2 --------------------|
#----------------|-----------------------------------------------------|
 001:0086---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       01:EXT2            1.90     .214 No_date    7:00   162.18
      [CN= 89.0: N= 3.00]
      [Tp=  .19:DT= 1.00]
#----------------|-----------------------------------------------------|
#----------------|-------------GOODALL SITE----------------------------|
#----------------|-----------------------------------------------------|
 001:0087---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD     02:Goodall         2.91     .329 No_date    7:00   178.02
      [XIMP=.56:TIMP=.70]
      [LOSS= 2 :CN= 84.0]
      [Pervious     area: IAper= 5.00:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI= .50:LGI= 240.:MNI=.013:SCI=   .0]
#----------------|-----------------------------------------------------|
 001:0088---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            01:EXT2            1.90     .214 No_date    7:00   162.18
                      + 02:Goodall         2.91     .329 No_date    7:00   178.02
      [DT= 1.00]  SUM=  05:GdSum           4.81     .543 No_date    7:00   171.76
#----------------|-----------------------------------------------------|
#----------------|--------- TOTAL DISCHARGE TO HIGH STREET ------------|
#----------------|-----------------------------------------------------|
 001:0089---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            04:SumB1          17.82    2.070 No_date    7:00   183.87
                      + 05:GdSum           4.81     .543 No_date    7:00   171.76
      [DT= 1.00]  SUM=  03:HighTot        22.63    2.613 No_date    7:00   181.30
#----------------|-----------------------------------------------------|
#------------------------- OUTLET: CAMBRIDGE STREET -------------------|
#----------------|-----------------------------------------------------|
#-------------------------------- R5 ----------------------------------|
#----------------|-----------------------------------------------------|
 001:0090---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     DESIGN STANDHYD    06:R5               .16     .018 No_date    7:00   179.72
      [XIMP=.56:TIMP=.70]
      [SLP= .50:DT= 1.00]
      [LOSS= 2 :CN= 84.0]
#----------------|-----------------------------------------------------|
#------------------------- OUTLET: HOME DEPOT -------------------------|
#-----------------------------  SWM POND  -----------------------------|
#---------------------------- REVISED 201 -----------------------------|
#----------------|-----------------------------------------------------|
 001:0091---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD     07:Rev201          2.50     .295 No_date    7:00   186.85
      [XIMP=.90:TIMP=.90]
      [LOSS= 2 :CN= 84.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI=1.00:LGI= 130.:MNI=.013:SCI=   .0]
#----------------|-----------------------------------------------------|
 001:0092-----------------------------------------------------------------
      FINISH
--------------------------------------------------------------------------
**************************************************************************
     WARNINGS / ERRORS / NOTES
     -------------------------
   Simulation ended on 2015-04-09     at 09:29:54
==========================================================================
```

```
2     Metric units
*#**************************************************************************
*#  Project Name: [West End Commercial, Collingwood]    Project Number: [183-269
*#  Date          : April 9, 2015
*#  Modeller      : [T. MacDougall]
*#  Company       : CF Crozier & Associates Inc.
*#  License #     :  3737016
*#**************************************************************************
*#   Uncontrolled Site Conditions - no ponds
*#
*#   Rainfall Data:  Storms are the SCS Volumes from MTO Design Chart 1.01(e)
*#   District 5: Owen Sound, Basins West of and including Collingwood.
*#-----------------|-------------------------------------------------------|
START                 TZERO=[0.0],   METOUT=[2],   NSTORM=[0],   NRUN=[0]
*%                     [  ] <--storm filename, one per line for NSTORM time
*#-----------------|-------------------------------------------------------|
*#**************************************************************************
*#********************************** 25mm event ****************************
*#**************************************************************************
*#-----------------|-------------------------------------------------------|
MASS STORM            PTOTAL=[25](mm), CSDT=[1](min),
                      CURVE_FILENAME=["SCS24HII.mst"]
*#-----------------|-------------------------------------------------------|
*#-------------------------------- OUTLET: HIGH STREET ---------------------|
*#-----------------|-------------------------------------------------------|
*#-----------------|----------------- EXTERNAL AREA #1 ---------------------|
*#-----------------|-------------------------------------------------------|
CALIB STANDHYD        ID=[1], NHYD=["EXT1"], DT=[1](min), AREA=[0.6](ha),
                      XIMP=[0.75], TIMP=[0.94], DWF=[0](cms), LOSS=[2],
                      SCS curve number CN=[84],
                      Pervious   surfaces: IAper=[5.0](mm), SLPP=[0.5](%),
                                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                      Impervious surfaces: IAimp=[2.0](mm), SLPI=[1.0](%),
                                           LGI=[120](m), MNI=[0.013], SCI=[0](min)
                      RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|-------------------------------------------------------|
*#-----------------|------- SITE AREA CONTRIBUTING TO SWM FACILTY ----------|
*#-----------------|-------------------------------------------------------|
CALIB STANDHYD        ID=[2], NHYD=["AREA"], DT=[1](min), AREA=[15](ha),
                      XIMP=[0.68], TIMP=[0.85], DWF=[0](cms), LOSS=[2],
                      SCS curve number CN=[84],
                      Pervious   surfaces: IAper=[5](mm), SLPP=[0.5](%),
                                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                      Impervious surfaces: IAimp=[2](mm), SLPI=[0.5](%),
                                           LGI=[300](m), MNI=[0.013], SCI=[0](min)
                      RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|-------------------------------------------------------|
ADD HYD               IDsum=[3], NHYD=["ToPond"], IDs to add=[1+2]
*#-----------------|-------------------------------------------------------|
*#---------------------------------------- B2 -----------------------------|
*#-----------------|-------------------------------------------------------|
DESIGN STANDHYD       ID=[2], NHYD=["B2"], DT=[1]min, AREA=[0.73](ha),
                      XIMP=[0.68], TIMP=[0.85], DWF=[0](cms), LOSS=[2], CN=[84],
                      SLOPE=[0.5](%), RAINFALL=[ , , , , ](mm/hr), END=-1
*#-----------------|-------------------------------------------------------|
ADD HYD               IDsum=[4], NHYD=["SumB2"], IDs to add=[2+3]
*#-----------------|-------------------------------------------------------|
*#---------------------------------------- C ------------------------------|
*#-----------------|-------------------------------------------------------|
DESIGN STANDHYD       ID=[3], NHYD=["C"], DT=[1]min, AREA=[0.68](ha),
                      XIMP=[0.68], TIMP=[0.85], DWF=[0](cms), LOSS=[2], CN=[84],
                      SLOPE=[1.0](%), RAINFALL=[ , , , , ](mm/hr), END=-1
*#-----------------|-------------------------------------------------------|
ADD HYD               IDsum=[1], NHYD=["SumC"], IDs to add=[3+4]
*#-----------------|-------------------------------------------------------|
*#---------------------------------------- R4 -----------------------------|
*#-----------------|-------------------------------------------------------|
DESIGN STANDHYD       ID=[2], NHYD=["R4"], DT=[1]min, AREA=[0.48](ha),
                      XIMP=[0.56], TIMP=[0.70], DWF=[0](cms), LOSS=[2], CN=[84],
                      SLOPE=[0.5](%), RAINFALL=[ , , , , ](mm/hr), END=-1
*#-----------------|-------------------------------------------------------|
ADD HYD               IDsum=[3], NHYD=["HighSt"], IDs to add=[1+2]
*#-----------------|-------------------------------------------------------|
*#---------------------------------------- B1 -----------------------------|
*#-----------------|-------------------------------------------------------|
CALIB NASHYD          ID=[2], NHYD=["B1"], DT=[1]min, AREA=[0.33](ha),
                      DWF=[0](cms),  CN/C=[84], IA=[5.0](mm),
                      N=[3], TP=[0.17]hrs,
                      RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------|
*#-----------------|---- TOTAL DISCHARGE TO HIGH STREET FROM SITE ----------|
*#-----------------|-------------------------------------------------------|
ADD HYD               IDsum=[4], NHYD=["SumB1"], IDs to add=[2+3]
*#-----------------|-------------------------------------------------------|
*#-----------------|----------------- EXTERNAL AREA #2 ---------------------|
*#-----------------|-------------------------------------------------------|
CALIB NASHYD          ID=[1], NHYD=["EXT2"], DT=[1]min, AREA=[1.9](ha),
                      DWF=[0](cms),  CN/C=[89], IA=[3.9](mm),
                      N=[3], TP=[0.19]hrs,
                      RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------|
*#-----------------|----------------GOODALL SITE----------------------------|
*#-----------------|-------------------------------------------------------|
CALIB STANDHYD        ID=[2], NHYD=["Goodall"], DT=[1](min), AREA=[2.91](ha),
                      XIMP=[0.56], TIMP=[0.70], DWF=[0](cms), LOSS=[2],
                      SCS curve number CN=[84],
                      Pervious   surfaces: IAper=[5.0](mm), SLPP=[0.5](%),
                                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                      Impervious surfaces: IAimp=[2.0](mm), SLPI=[0.5](%),
                                           LGI=[240](m), MNI=[0.013], SCI=[0](min)
                      RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|-------------------------------------------------------|
ADD HYD               IDsum=[5], NHYD=["GdSum"], IDs to add=[1+2]
*#-----------------|-------------------------------------------------------|
*#-----------------|---------- TOTAL DISCHARGE TO HIGH STREET --------------|
*#-----------------|-------------------------------------------------------|
ADD HYD               IDsum=[3], NHYD=["HighTot"], IDs to add=[4+5]
*#-----------------|-------------------------------------------------------|
*#--------------------------- OUTLET: CAMBRIDGE STREET --------------------|
*#-----------------|-------------------------------------------------------|
*#---------------------------------------- R5 -----------------------------|
*#-----------------|-------------------------------------------------------|
DESIGN STANDHYD       ID=[6], NHYD=["R5"], DT=[1]min, AREA=[0.16](ha),
                      XIMP=[0.56], TIMP=[0.70], DWF=[0](cms), LOSS=[2], CN=[84],
                      SLOPE=[0.5](%), RAINFALL=[ , , , , ](mm/hr), END=-1
*#-----------------|-------------------------------------------------------|
*#--------------------------- OUTLET: HOME DEPOT --------------------------|
*#-------------------------------- SWM POND -------------------------------|
*#------------------------------ REVISED 201 ------------------------------|
*#-----------------|-------------------------------------------------------|
CALIB STANDHYD        ID=[7], NHYD=["Rev201"], DT=[1](min), AREA=[2.50](ha),
                      XIMP=[0.9], TIMP=[0.9], DWF=[0](cms), LOSS=[2],
                      SCS curve number CN=[84],
                      Pervious   surfaces: IAper=[5.0](mm), SLPP=[2](%),
                                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                      Impervious surfaces: IAimp=[2](mm), SLPI=[1](%),
                                           LGI=[130](m), MNI=[0.013], SCI=[0](min)
                      RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|-------------------------------------------------------|
*#**************************************************************************
*#************************** 24 hour SCS 5-year ****************************
*#**************************************************************************
*%-----------------|-------------------------------------------------------|
MASS STORM            PTOTAL=[62.4](mm), CSDT=[1](min),
                      CURVE_FILENAME=["SCS24HII.mst"]
*#-----------------|-------------------------------------------------------|
*#------------------------------- OUTLET: HIGH STREET ----------------------|
*#-----------------|-------------------------------------------------------|
*#-----------------|----------------- EXTERNAL AREA #1 ---------------------|
*#-----------------|-------------------------------------------------------|
CALIB STANDHYD        ID=[1], NHYD=["EXT1"], DT=[1](min), AREA=[0.6](ha),
                      XIMP=[0.75], TIMP=[0.94], DWF=[0](cms), LOSS=[2],
                      SCS curve number CN=[84],
                      Pervious   surfaces: IAper=[5.0](mm), SLPP=[0.5](%),
                                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                      Impervious surfaces: IAimp=[2.0](mm), SLPI=[1.0](%),
                                           LGI=[120](m), MNI=[0.013], SCI=[0](min)
                      RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|-------------------------------------------------------|
*#-----------------|------- SITE AREA CONTRIBUTING TO SWM FACILTY ----------|
*#-----------------|-------------------------------------------------------|
CALIB STANDHYD        ID=[2], NHYD=["AREA"], DT=[1](min), AREA=[15](ha),
                      XIMP=[0.68], TIMP=[0.85], DWF=[0](cms), LOSS=[2],
                      SCS curve number CN=[84],
                      Pervious   surfaces: IAper=[5](mm), SLPP=[0.5](%),
                                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                      Impervious surfaces: IAimp=[2](mm), SLPI=[0.5](%),
                                           LGI=[300](m), MNI=[0.013], SCI=[0](min)
                      RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|-------------------------------------------------------|
ADD HYD               IDsum=[3], NHYD=["ToPond"], IDs to add=[1+2]
*#-----------------|-------------------------------------------------------|
*#---------------------------------------- B2 -----------------------------|
*#-----------------|-------------------------------------------------------|
DESIGN STANDHYD       ID=[2], NHYD=["B2"], DT=[1]min, AREA=[0.73](ha),
                      XIMP=[0.68], TIMP=[0.85], DWF=[0](cms), LOSS=[2], CN=[84],
                      SLOPE=[0.5](%), RAINFALL=[ , , , , ](mm/hr), END=-1
*#-----------------|-------------------------------------------------------|
ADD HYD               IDsum=[4], NHYD=["SumB2"], IDs to add=[2+3]
*#-----------------|-------------------------------------------------------|
*#---------------------------------------- C ------------------------------|
*#-----------------|-------------------------------------------------------|
DESIGN STANDHYD       ID=[3], NHYD=["C"], DT=[1]min, AREA=[0.68](ha),
                      XIMP=[0.68], TIMP=[0.85], DWF=[0](cms), LOSS=[2], CN=[84],
                      SLOPE=[1.0](%), RAINFALL=[ , , , , ](mm/hr), END=-1
*#-----------------|-------------------------------------------------------|
ADD HYD               IDsum=[1], NHYD=["SumC"], IDs to add=[3+4]
*#-----------------|-------------------------------------------------------|
*#---------------------------------------- R4 -----------------------------|
*#-----------------|-------------------------------------------------------|
DESIGN STANDHYD       ID=[2], NHYD=["R4"], DT=[1]min, AREA=[0.48](ha),
                      XIMP=[0.56], TIMP=[0.70], DWF=[0](cms), LOSS=[2], CN=[84],
                      SLOPE=[0.5](%), RAINFALL=[ , , , , ](mm/hr), END=-1
*#-----------------|-------------------------------------------------------|
ADD HYD               IDsum=[3], NHYD=["HighSt"], IDs to add=[1+2]
*#-----------------|-------------------------------------------------------|
*#---------------------------------------- B1 -----------------------------|
*#-----------------|-------------------------------------------------------|
CALIB NASHYD          ID=[2], NHYD=["B1"], DT=[1]min, AREA=[0.33](ha),
                      DWF=[0](cms),  CN/C=[84], IA=[5.0](mm),
                      N=[3], TP=[0.17]hrs,
                      RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------|
*#-----------------|---- TOTAL DISCHARGE TO HIGH STREET FROM SITE ----------|
*#-----------------|-------------------------------------------------------|
ADD HYD               IDsum=[4], NHYD=["SumB1"], IDs to add=[2+3]
*#-----------------|-------------------------------------------------------|
*#-----------------|----------------- EXTERNAL AREA #2 ---------------------|
*#-----------------|-------------------------------------------------------|
CALIB NASHYD          ID=[1], NHYD=["EXT2"], DT=[1]min, AREA=[1.9](ha),
                      DWF=[0](cms),  CN/C=[89], IA=[3.9](mm),
                      N=[3], TP=[0.19]hrs,
                      RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------|
*#-----------------|----------------GOODALL SITE----------------------------|
*#-----------------|-------------------------------------------------------|
CALIB STANDHYD        ID=[2], NHYD=["Goodall"], DT=[1](min), AREA=[2.91](ha),
                      XIMP=[0.56], TIMP=[0.70], DWF=[0](cms), LOSS=[2],
                      SCS curve number CN=[84],
                      Pervious   surfaces: IAper=[5.0](mm), SLPP=[0.5](%),
                                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                      Impervious surfaces: IAimp=[2.0](mm), SLPI=[0.5](%),
                                           LGI=[240](m), MNI=[0.013], SCI=[0](min)
                      RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|-------------------------------------------------------|
ADD HYD               IDsum=[5], NHYD=["GdSum"], IDs to add=[1+2]
*#-----------------|-------------------------------------------------------|
*#-----------------|---------- TOTAL DISCHARGE TO HIGH STREET --------------|
*#-----------------|-------------------------------------------------------|
ADD HYD               IDsum=[3], NHYD=["HighTot"], IDs to add=[4+5]
*#-----------------|-------------------------------------------------------|
*#--------------------------- OUTLET: CAMBRIDGE STREET --------------------|
*#-----------------|-------------------------------------------------------|
*#---------------------------------------- R5 -----------------------------|
*#-----------------|-------------------------------------------------------|
DESIGN STANDHYD       ID=[6], NHYD=["R5"], DT=[1]min, AREA=[0.16](ha),
                      XIMP=[0.56], TIMP=[0.70], DWF=[0](cms), LOSS=[2], CN=[84],
                      SLOPE=[0.5](%), RAINFALL=[ , , , , ](mm/hr), END=-1
*#-----------------|-------------------------------------------------------|
*#--------------------------- OUTLET: HOME DEPOT --------------------------|
*#-------------------------------- SWM POND -------------------------------|
*#------------------------------ REVISED 201 ------------------------------|
*#-----------------|-------------------------------------------------------|
CALIB STANDHYD        ID=[7], NHYD=["Rev201"], DT=[1](min), AREA=[2.50](ha),
                      XIMP=[0.9], TIMP=[0.9], DWF=[0](cms), LOSS=[2],
                      SCS curve number CN=[84],
                      Pervious   surfaces: IAper=[5.0](mm), SLPP=[2](%),
                                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                      Impervious surfaces: IAimp=[2](mm), SLPI=[1](%),
                                           LGI=[130](m), MNI=[0.013], SCI=[0](min)
                      RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|-------------------------------------------------------|
*#**************************************************************************
*#************************** 24 hour SCS 25-year ***************************
*#**************************************************************************
*%-----------------|-------------------------------------------------------|
MASS STORM            PTOTAL=[86.4](mm), CSDT=[1](min),
                      CURVE_FILENAME=["SCS24HII.mst"]
*#-----------------|-------------------------------------------------------|
*#------------------------------- OUTLET: HIGH STREET ----------------------|
*#-----------------|-------------------------------------------------------|
*#-----------------|----------------- EXTERNAL AREA #1 ---------------------|
*#-----------------|-------------------------------------------------------|
CALIB STANDHYD        ID=[1], NHYD=["EXT1"], DT=[1](min), AREA=[0.6](ha),
                      XIMP=[0.75], TIMP=[0.94], DWF=[0](cms), LOSS=[2],
                      SCS curve number CN=[84],
                      Pervious   surfaces: IAper=[5.0](mm), SLPP=[0.5](%),
                                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                      Impervious surfaces: IAimp=[2.0](mm), SLPI=[1.0](%),
                                           LGI=[120](m), MNI=[0.013], SCI=[0](min)
                      RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|-------------------------------------------------------|
*#-----------------|------- SITE AREA CONTRIBUTING TO SWM FACILTY ----------|
*#-----------------|-------------------------------------------------------|
CALIB STANDHYD        ID=[2], NHYD=["AREA"], DT=[1](min), AREA=[15](ha),
                      XIMP=[0.68], TIMP=[0.85], DWF=[0](cms), LOSS=[2],
                      SCS curve number CN=[84],
                      Pervious   surfaces: IAper=[5](mm), SLPP=[0.5](%),
                                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                      Impervious surfaces: IAimp=[2](mm), SLPI=[0.5](%),
```

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                                                  LGI=[300](m), MNI=[0.013], SCI=[0](min)
                         RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|--------------------------------------------------------------|
ADD HYD                  IDsum=[3], NHYD=["ToPond"], IDs to add=[1+2]
*#-----------------|--------------------------------------------------------------|
*#-------------------------------------------- B2 --------------------------------|
*#-----------------|--------------------------------------------------------------|
DESIGN STANDHYD          ID=[2], NHYD=["B2"], DT=[1]min, AREA=[0.73](ha),
                         XIMP=[0.68], TIMP=[0.85], DWF=[0](cms), LOSS=[2], CN=[84],
                         SLOPE=[0.5](%), RAINFALL=[ , , , , ](mm/hr), END=-1
*#-----------------|--------------------------------------------------------------|
ADD HYD                  IDsum=[4], NHYD=["SumB2"], IDs to add=[2+3]
*#-----------------|--------------------------------------------------------------|
*#-------------------------------------------- C ---------------------------------|
*#-----------------|--------------------------------------------------------------|
DESIGN STANDHYD          ID=[3], NHYD=["C"], DT=[1]min, AREA=[0.68](ha),
                         XIMP=[0.68], TIMP=[0.85], DWF=[0](cms), LOSS=[2], CN=[84],
                         SLOPE=[1.0](%), RAINFALL=[ , , , , ](mm/hr), END=-1
*#-----------------|--------------------------------------------------------------|
ADD HYD                  IDsum=[1], NHYD=["SumC"], IDs to add=[3+4]
*#-----------------|--------------------------------------------------------------|
*#-------------------------------------------- R4 --------------------------------|
*#-----------------|--------------------------------------------------------------|
DESIGN STANDHYD          ID=[2], NHYD=["R4"], DT=[1]min, AREA=[0.48](ha),
                         XIMP=[0.56], TIMP=[0.70], DWF=[0](cms), LOSS=[2], CN=[84],
                         SLOPE=[0.5](%), RAINFALL=[ , , , , ](mm/hr), END=-1
*#-----------------|--------------------------------------------------------------|
ADD HYD                  IDsum=[3], NHYD=["HighSt"], IDs to add=[1+2]
*#-----------------|--------------------------------------------------------------|
*#-------------------------------------------- B1 --------------------------------|
*#-----------------|--------------------------------------------------------------|
CALIB NASHYD             ID=[2], NHYD=["B1"], DT=[1]min, AREA=[0.33](ha),
                         DWF=[0](cms),  CN/C=[84], IA=[5.0](mm),
                         N=[3], TP=[0.17]hrs,
                         RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|--------------------------------------------------------------|
*#-----------------|---- TOTAL DISCHARGE TO HIGH STREET FROM SITE ----------------|
*#-----------------|--------------------------------------------------------------|
ADD HYD                  IDsum=[4], NHYD=["SumB1"], IDs to add=[2+3]
*#-----------------|--------------------------------------------------------------|
*#-----------------|---------------- EXTERNAL AREA #2 ----------------------------|
*#-----------------|--------------------------------------------------------------|
CALIB NASHYD             ID=[1], NHYD=["EXT2"], DT=[1]min, AREA=[1.9](ha),
                         DWF=[0](cms),  CN/C=[89], IA=[3.9](mm),
                         N=[3], TP=[0.19]hrs,
                         RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|--------------------------------------------------------------|
*#-----------------|---------------GOODALL SITE-----------------------------------|
*#-----------------|--------------------------------------------------------------|
CALIB STANDHYD           ID=[2], NHYD=["Goodall"], DT=[1](min), AREA=[2.91](ha),
                         XIMP=[0.56], TIMP=[0.70], DWF=[0](cms), LOSS=[2],
                         SCS curve number CN=[84],
                         Pervious   surfaces: IAper=[5.0](mm), SLPP=[0.5](%),
                                              LGP=[40](m), MNP=[0.25], SCP=[0](min),
                         Impervious surfaces: IAimp=[2.0](mm), SLPI=[0.5](%),
                                              LGI=[240](m), MNI=[0.013], SCI=[0](min)
                         RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|--------------------------------------------------------------|
ADD HYD                  IDsum=[5], NHYD=["GdSum"], IDs to add=[1+2]
*#-----------------|--------------------------------------------------------------|
*#-----------------|--------- TOTAL DISCHARGE TO HIGH STREET ----------------------|
*#-----------------|--------------------------------------------------------------|
ADD HYD                  IDsum=[3], NHYD=["HighTot"], IDs to add=[4+5]
*#-----------------|--------------------------------------------------------------|
*#---------------------------------- OUTLET: CAMBRIDGE STREET ---------------------|
*#-----------------|--------------------------------------------------------------|
*#-------------------------------------------- R5 --------------------------------|
*#-----------------|--------------------------------------------------------------|
DESIGN STANDHYD          ID=[6], NHYD=["R5"], DT=[1]min, AREA=[0.16](ha),
                         XIMP=[0.56], TIMP=[0.70], DWF=[0](cms), LOSS=[2], CN=[84],
                         SLOPE=[0.5](%), RAINFALL=[ , , , , ](mm/hr), END=-1
*#-----------------|--------------------------------------------------------------|
*#---------------------------------- OUTLET: HOME DEPOT ---------------------------|
*#---------------------------------------- SWM POND -------------------------------|
*#--------------------------------------- REVISED 201 -----------------------------|
*#-----------------|--------------------------------------------------------------|
CALIB STANDHYD           ID=[7], NHYD=["Rev201"], DT=[1](min), AREA=[2.50](ha),
                         XIMP=[0.9], TIMP=[0.9], DWF=[0](cms), LOSS=[2],
                         SCS curve number CN=[84],
                         Pervious   surfaces: IAper=[5.0](mm), SLPP=[2](%),
                                              LGP=[40](m), MNP=[0.25], SCP=[0](min),
                         Impervious surfaces: IAimp=[2](mm), SLPI=[1](%),
                                              LGI=[130](m), MNI=[0.013], SCI=[0](min)
                         RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|--------------------------------------------------------------|
*#*********************************************************************************
*#---------------------------------- 24 hour SCS 100-year -------------------------|
*#*********************************************************************************
*#-----------------|--------------------------------------------------------------|
MASS STORM               PTOTAL=[108.0](mm), CSDT=[12](min),
                         CURVE_FILENAME=["SCS24HII.MST"]
*#-----------------|--------------------------------------------------------------|
*#---------------------------------- OUTLET: HIGH STREET --------------------------|
*#-----------------|--------------------------------------------------------------|
*#-----------------|---------------- EXTERNAL AREA #1 ----------------------------|
*#-----------------|--------------------------------------------------------------|
CALIB STANDHYD           ID=[1], NHYD=["EXT1"], DT=[1](min), AREA=[0.6](ha),
                         XIMP=[0.75], TIMP=[0.94], DWF=[0](cms), LOSS=[2],
                         SCS curve number CN=[84],
                         Pervious   surfaces: IAper=[5.0](mm), SLPP=[0.5](%),
                                              LGP=[40](m), MNP=[0.25], SCP=[0](min),
                         Impervious surfaces: IAimp=[2.0](mm), SLPI=[1.0](%),
                                              LGI=[120](m), MNI=[0.013], SCI=[0](min)
                         RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|--------------------------------------------------------------|
*#-----------------|------- SITE AREA CONTRIBUTING TO SWM FACILTY ----------------|
*#-----------------|--------------------------------------------------------------|
CALIB STANDHYD           ID=[2], NHYD=["AREA"], DT=[1](min), AREA=[15](ha),
                         XIMP=[0.68], TIMP=[0.85], DWF=[0](cms), LOSS=[2],
                         SCS curve number CN=[84],
                         Pervious   surfaces: IAper=[5](mm), SLPP=[0.5](%),
                                              LGP=[40](m), MNP=[0.25], SCP=[0](min),
                         Impervious surfaces: IAimp=[2](mm), SLPI=[0.5](%),
                                              LGI=[300](m), MNI=[0.013], SCI=[0](min)
                         RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|--------------------------------------------------------------|
ADD HYD                  IDsum=[3], NHYD=["ToPond"], IDs to add=[1+2]
*#-----------------|--------------------------------------------------------------|
*#-------------------------------------------- B2 --------------------------------|
*#-----------------|--------------------------------------------------------------|
DESIGN STANDHYD          ID=[2], NHYD=["B2"], DT=[1]min, AREA=[0.73](ha),
                         XIMP=[0.68], TIMP=[0.85], DWF=[0](cms), LOSS=[2], CN=[84],
                         SLOPE=[0.5](%), RAINFALL=[ , , , , ](mm/hr), END=-1
*#-----------------|--------------------------------------------------------------|
ADD HYD                  IDsum=[4], NHYD=["SumB2"], IDs to add=[2+3]
*#-----------------|--------------------------------------------------------------|
*#-------------------------------------------- C ---------------------------------|
*#-----------------|--------------------------------------------------------------|
DESIGN STANDHYD          ID=[3], NHYD=["C"], DT=[1]min, AREA=[0.68](ha),
                         XIMP=[0.68], TIMP=[0.85], DWF=[0](cms), LOSS=[2], CN=[84],
                         SLOPE=[1.0](%), RAINFALL=[ , , , , ](mm/hr), END=-1
*#-----------------|--------------------------------------------------------------|
ADD HYD                  IDsum=[1], NHYD=["SumC"], IDs to add=[3+4]
*#-----------------|--------------------------------------------------------------|
*#-------------------------------------------- R4 --------------------------------|
*#-----------------|--------------------------------------------------------------|
DESIGN STANDHYD          ID=[2], NHYD=["R4"], DT=[1]min, AREA=[0.48](ha),
                         XIMP=[0.56], TIMP=[0.70], DWF=[0](cms), LOSS=[2], CN=[84],
                         SLOPE=[0.5](%), RAINFALL=[ , , , , ](mm/hr), END=-1
*#-----------------|--------------------------------------------------------------|
ADD HYD                  IDsum=[3], NHYD=["HighSt"], IDs to add=[1+2]
*#-----------------|--------------------------------------------------------------|
*#-------------------------------------------- B1 --------------------------------|
*#-----------------|--------------------------------------------------------------|
CALIB NASHYD             ID=[2], NHYD=["B1"], DT=[1]min, AREA=[0.33](ha),
                         DWF=[0](cms),  CN/C=[84], IA=[5.0](mm),
                         N=[3], TP=[0.17]hrs,
                         RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|--------------------------------------------------------------|
*#-----------------|---- TOTAL DISCHARGE TO HIGH STREET FROM SITE ----------------|
*#-----------------|--------------------------------------------------------------|
ADD HYD                  IDsum=[4], NHYD=["SumB1"], IDs to add=[2+3]
*#-----------------|--------------------------------------------------------------|
*#-----------------|---------------- EXTERNAL AREA #2 ----------------------------|
*#-----------------|--------------------------------------------------------------|
CALIB NASHYD             ID=[1], NHYD=["EXT2"], DT=[1]min, AREA=[1.9](ha),
                         DWF=[0](cms),  CN/C=[89], IA=[3.9](mm),
                         N=[3], TP=[0.19]hrs,
                         RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|--------------------------------------------------------------|
*#-----------------|---------------GOODALL SITE-----------------------------------|
*#-----------------|--------------------------------------------------------------|
CALIB STANDHYD           ID=[2], NHYD=["Goodall"], DT=[1](min), AREA=[2.91](ha),
                         XIMP=[0.56], TIMP=[0.70], DWF=[0](cms), LOSS=[2],
                         SCS curve number CN=[84],
                         Pervious   surfaces: IAper=[5.0](mm), SLPP=[0.5](%),
                                              LGP=[40](m), MNP=[0.25], SCP=[0](min),
                         Impervious surfaces: IAimp=[2.0](mm), SLPI=[0.5](%),
                                              LGI=[240](m), MNI=[0.013], SCI=[0](min)
                         RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|--------------------------------------------------------------|
ADD HYD                  IDsum=[5], NHYD=["GdSum"], IDs to add=[1+2]
*#-----------------|--------------------------------------------------------------|
*#-----------------|--------- TOTAL DISCHARGE TO HIGH STREET ----------------------|
*#-----------------|--------------------------------------------------------------|
ADD HYD                  IDsum=[3], NHYD=["HighTot"], IDs to add=[4+5]
*#-----------------|--------------------------------------------------------------|
*#---------------------------------- OUTLET: CAMBRIDGE STREET ---------------------|
*#-----------------|--------------------------------------------------------------|
*#-------------------------------------------- R5 --------------------------------|
*#-----------------|--------------------------------------------------------------|
DESIGN STANDHYD          ID=[6], NHYD=["R5"], DT=[1]min, AREA=[0.16](ha),
                         XIMP=[0.56], TIMP=[0.70], DWF=[0](cms), LOSS=[2], CN=[84],
                         SLOPE=[0.5](%), RAINFALL=[ , , , , ](mm/hr), END=-1
*#-----------------|--------------------------------------------------------------|
*#---------------------------------- OUTLET: HOME DEPOT ---------------------------|
*#---------------------------------------- SWM POND -------------------------------|
*#--------------------------------------- REVISED 201 -----------------------------|
*#-----------------|--------------------------------------------------------------|
CALIB STANDHYD           ID=[7], NHYD=["Rev201"], DT=[1](min), AREA=[2.50](ha),
                         XIMP=[0.9], TIMP=[0.9], DWF=[0](cms), LOSS=[2],
                         SCS curve number CN=[84],
                         Pervious   surfaces: IAper=[5.0](mm), SLPP=[2](%),
                                              LGP=[40](m), MNP=[0.25], SCP=[0](min),
                         Impervious surfaces: IAimp=[2](mm), SLPI=[1](%),
                                              LGI=[130](m), MNI=[0.013], SCI=[0](min)
                         RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|--------------------------------------------------------------|
*#*********************************************************************************
*#------------------------------------- REGIONAL EVENT ----------------------------|
*#*********************************************************************************
*#-----------------|--------------------------------------------------------------|
READ STORM               STORM_FILENAME=["tim.STM"]
*#-----------------|--------------------------------------------------------------|
*#---------------------------------- OUTLET: HIGH STREET --------------------------|
*#-----------------|--------------------------------------------------------------|
*#-----------------|---------------- EXTERNAL AREA #1 ----------------------------|
*#-----------------|--------------------------------------------------------------|
CALIB STANDHYD           ID=[1], NHYD=["EXT1"], DT=[1](min), AREA=[0.6](ha),
                         XIMP=[0.75], TIMP=[0.94], DWF=[0](cms), LOSS=[2],
                         SCS curve number CN=[84],
                         Pervious   surfaces: IAper=[5.0](mm), SLPP=[0.5](%),
                                              LGP=[40](m), MNP=[0.25], SCP=[0](min),
                         Impervious surfaces: IAimp=[2.0](mm), SLPI=[1.0](%),
                                              LGI=[120](m), MNI=[0.013], SCI=[0](min)
                         RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|--------------------------------------------------------------|
*#-----------------|------- SITE AREA CONTRIBUTING TO SWM FACILTY ----------------|
*#-----------------|--------------------------------------------------------------|
CALIB STANDHYD           ID=[2], NHYD=["AREA"], DT=[1](min), AREA=[15](ha),
                         XIMP=[0.68], TIMP=[0.85], DWF=[0](cms), LOSS=[2],
                         SCS curve number CN=[84],
                         Pervious   surfaces: IAper=[5](mm), SLPP=[0.5](%),
                                              LGP=[40](m), MNP=[0.25], SCP=[0](min),
                         Impervious surfaces: IAimp=[2](mm), SLPI=[0.5](%),
                                              LGI=[300](m), MNI=[0.013], SCI=[0](min)
                         RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|--------------------------------------------------------------|
ADD HYD                  IDsum=[3], NHYD=["ToPond"], IDs to add=[1+2]
*#-----------------|--------------------------------------------------------------|
*#-------------------------------------------- B2 --------------------------------|
*#-----------------|--------------------------------------------------------------|
DESIGN STANDHYD          ID=[2], NHYD=["B2"], DT=[1]min, AREA=[0.73](ha),
                         XIMP=[0.68], TIMP=[0.85], DWF=[0](cms), LOSS=[2], CN=[84],
                         SLOPE=[0.5](%), RAINFALL=[ , , , , ](mm/hr), END=-1
*#-----------------|--------------------------------------------------------------|
ADD HYD                  IDsum=[4], NHYD=["SumB2"], IDs to add=[2+3]
*#-----------------|--------------------------------------------------------------|
*#-------------------------------------------- C ---------------------------------|
*#-----------------|--------------------------------------------------------------|
DESIGN STANDHYD          ID=[3], NHYD=["C"], DT=[1]min, AREA=[0.68](ha),
                         XIMP=[0.68], TIMP=[0.85], DWF=[0](cms), LOSS=[2], CN=[84],
                         SLOPE=[1.0](%), RAINFALL=[ , , , , ](mm/hr), END=-1
*#-----------------|--------------------------------------------------------------|
ADD HYD                  IDsum=[1], NHYD=["SumC"], IDs to add=[3+4]
*#-----------------|--------------------------------------------------------------|
*#-------------------------------------------- R4 --------------------------------|
*#-----------------|--------------------------------------------------------------|
DESIGN STANDHYD          ID=[2], NHYD=["R4"], DT=[1]min, AREA=[0.48](ha),
                         XIMP=[0.56], TIMP=[0.70], DWF=[0](cms), LOSS=[2], CN=[84],
                         SLOPE=[0.5](%), RAINFALL=[ , , , , ](mm/hr), END=-1
*#-----------------|--------------------------------------------------------------|
ADD HYD                  IDsum=[3], NHYD=["HighSt"], IDs to add=[1+2]
*#-----------------|--------------------------------------------------------------|
*#-------------------------------------------- B1 --------------------------------|
*#-----------------|--------------------------------------------------------------|
CALIB NASHYD             ID=[2], NHYD=["B1"], DT=[1]min, AREA=[0.33](ha),
                         DWF=[0](cms),  CN/C=[84], IA=[5.0](mm),
                         N=[3], TP=[0.17]hrs,
                         RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|--------------------------------------------------------------|
*#-----------------|---- TOTAL DISCHARGE TO HIGH STREET FROM SITE ----------------|
*#-----------------|--------------------------------------------------------------|
ADD HYD                  IDsum=[4], NHYD=["SumB1"], IDs to add=[2+3]
*#-----------------|--------------------------------------------------------------|
*#-----------------|---------------- EXTERNAL AREA #2 ----------------------------|
*#-----------------|--------------------------------------------------------------|
CALIB NASHYD             ID=[1], NHYD=["EXT2"], DT=[1]min, AREA=[1.9](ha),
                         DWF=[0](cms),  CN/C=[89], IA=[3.9](mm),
                         N=[3], TP=[0.19]hrs,
```

```
00541>                      RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00542> *#-----------------|-------------------------------------------------------|
00543> *#-----------------|--------------GOODALL SITE-------------------------------|
00544> *#-----------------|-------------------------------------------------------|
00545> CALIB STANDHYD      ID=[2], NHYD=["Goodall"], DT=[1](min), AREA=[2.91](ha),
00546>                     XIMP=[0.56], TIMP=[0.70], DWF=[0](cms), LOSS=[2],
00547>                     SCS curve number CN=[84],
00548>                     Pervious   surfaces: IAper=[5.0](mm), SLPP=[0.5](%),
00549>                                          LGP=[40](m), MNP=[0.25], SCP=[0](min),
00550>                     Impervious surfaces: IAimp=[2.0](mm), SLPI=[0.5](%),
00551>                                          LGI=[240](m), MNI=[0.013], SCI=[0](min)
00552>                     RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
00553> *#-----------------|-------------------------------------------------------|
00554> ADD HYD            ID=num=[5], NHYD=["GdSum"], IDs to add=[1+2]
00555> *#-----------------|-------------------------------------------------------|
00556> *#-----------------|--------- TOTAL DISCHARGE TO HIGH STREET ----------------|
00557> *#-----------------|-------------------------------------------------------|
00558> ADD HYD            IDnum=[3], NHYD=["HighToC"], IDs to add=[4+5]
00559> *#-----------------|-------------------------------------------------------|
00560> *#-----------------|--------- OUTLET: CAMBRIDGE STREET -----------------------|
00561> *#-----------------|-------------------------------------------------------|
00562> *#-----------------|------------------ R5 ----------------------------------|
00563> *#-----------------|-------------------------------------------------------|
00564> DESIGN STANDHYD     ID=[6], NHYD=["R5"], DT=[1]min, AREA=[0.16](ha),
00565>                     XIMP=[0.56], TIMP=[0.70], DWF=[0](cms), LOSS=[2], CN=[84],
00566>                     SLOPE=[0.5](%), RAINFALL=[ , , , , ](mm/hr), END=-1
00567> *#-----------------|-------------------------------------------------------|
00568> *#-----------------|--------- OUTLET: HOME DEPOT -----------------------------|
00569> *#-----------------|-------------  SWM POND  -------------------------------|
00570> *#-----------------|------------ REVISED 201 ----------------------------------|
00571> *#-----------------|-------------------------------------------------------|
00572> CALIB STANDHYD      ID=[7], NHYD=["Rev201"], DT=[1](min), AREA=[2.50](ha),
00573>                     XIMP=[0.9], TIMP=[0.9], DWF=[0](cms), LOSS=[2],
00574>                     SCS curve number CN=[84],
00575>                     Pervious   surfaces: IAper=[5.0](mm), SLPP=[2](%),
00576>                                          LGP=[40](m), MNP=[0.25], SCP=[0](min),
00577>                     Impervious surfaces: IAimp=[2](mm), SLPI=[1](%),
00578>                                          LGI=[130](m), MNI=[0.013], SCI=[0](min)
00579>                     RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
00580> *#-----------------|-------------------------------------------------------|
00581> FINISH
00582>
00583>
00584>
```

```
 ***************************************************************************

   SSSSS  W   W  M   M  H   H  Y   Y  M   M   OOO        999   999   *********
   S      W W W  MM MM  H   H   Y Y   MM MM  O   O     9   9 9   9
   SSSSS  W W W  M M M  HHHHH    Y    M M M  O   O ##  9   9 9   9  Ver  4.05
       S   W W   M   M  H   H    Y    M   M  O   O      9999  9999  Sept 2011
   SSSSS   W W   M   M  H   H    Y    M   M   OOO          9     9  *********
                                                       9   9 9   9  # 3737016
        StormWater Management HYdrologic Model          999   999   *********

  **************************************************************************
  ***************************** SWMHYMO Ver/4.05 ****************************
  ********* 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   :     10         *********
  *********            Max. number of rainfall points: 105408          *********
  *********            Max. number of flow points    : 105408          *********
  **************************************************************************

  ***** DESCRIPTION SUMMARY TABLE HEADERS (units depend on METOUT in START) *****
  *****----------------------------------------------------------------------*****
  *****    ID:  Hydrograph IDentification numbers, (1-10).                  *****
  *****  NHYD:  Hydrograph reference numbers, (6 digits or characters).     *****
  *****  AREA:  Drainage area associated with hydrograph, (ac.) or (ha.).   *****
  ***** QPEAK:  Peak flow of simulated hydrograph, (ft^3/s) or (m^3/s).     *****
  ***** TpeakDate_hh:mm is the date and time of the peak flow.              *****
  *****  R.V.:  Runoff Volume of simulated hydrograph, (in) or (mm).        *****
  *****  R.C.:  Runoff Coefficient of simulated hydrograph, (ratio).        *****
  *****     *:  see WARNING or NOTE message printed at end of run.          *****
  *****    **:  see  ERROR  message printed at end of run.                  *****
  ******************************************************************************
  ******************************************************************************

 ::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::

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

  *********************     S U M M A R Y   O U T P U T     *********************
  ******************************************************************************
  *          DATE: 2015-04-09     TIME: 09:28:45     RUN COUNTER: 000142        *
  ******************************************************************************
  * Input   filename: C:\SWMHYMO\THIRDH-1\UNCONT-1\UncSCS4.DAT                 *
  * Output  filename: C:\SWMHYMO\THIRDH-1\UNCONT-1\UncSCS4.out                 *
  * Summary filename: C:\SWMHYMO\THIRDH-1\UNCONT-1\UncSCS4.sum                 *
  * User comments:                                                             *
  * 1:_________________________________________________________________________*
  * 2:_________________________________________________________________________*
  * 3:_________________________________________________________________________*
  ******************************************************************************


 #*****************************************************************************
 #  Project Name: [West End Commercial, Collingwood]    Project Number: [183-269
 #  Date          : April 9, 2015
 #  Modeller      : [T. MacDougall]
 #  Company       : CF Crozier & Associates Inc.
 #  License #     : 3737016
 #*****************************************************************************
 #   Uncontrolled Site Conditions - no ponds
 #
 #   Rainfall Data:  Storms are the SCS Volumes from MTO Design Chart 1.01(e)
 #   District 5, Owen Sound, Basins West of and including Collingwood.
 #-----------------|-----------------------------------------------------------|
  RUN:COMMAND#
  001:0001---------------------------------------------------------------------
      START
        [TZERO =     .00 hrs on        0]
        [METOUT=   2     (1=imperial, 2=metric output)]
        [NSTORM=   0 ]
        [NRUN  =   1 ]
 #-----------------|-----------------------------------------------------------|
 #*****************************************************************************
 #****************************** 25mm event ***********************************
 #*****************************************************************************
 #-----------------|-----------------------------------------------------------|
  001:0002---------------------------------------------------------------------
      MASS STORM
        Filename = C:\SWMHYMO\THIRDH-1\UNCONT-1\SCS24HII.mst
        Comment  = 24 hour SCS II storm mass curve
        [SDT= 1.00:SDUR=  24.00:PTOT=  25.00]
 #-----------------|-----------------------------------------------------------|
 #--------------------------------- OUTLET: HIGH STREET -----------------------|
 #-----------------|-----------------------------------------------------------|
 #-----------------|----------------- EXTERNAL AREA #1 ------------------------|
 #-----------------|-----------------------------------------------------------|
  001:0003---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
      CALIB STANDHYD     01:EXT1           .60      .036 No_date   12:12    21.25
        [XIMP=.75:TIMP=.94]
        [LOSS= 2 :CN= 84.0]
        [Pervious     area: IAper= 5.00:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 2.00:SLPI=1.00:LGI= 120.:MNI=.013:SCI=   .0]
 #-----------------|-----------------------------------------------------------|
 #-----------------|------- SITE AREA CONTRIBUTING TO SWM FACILTY -------------|
 #-----------------|-----------------------------------------------------------|
  001:0004---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
      CALIB STANDHYD     02:AREA         15.00      .627 No_date   12:16    19.26
        [XIMP=.68:TIMP=.85]
        [LOSS= 2 :CN= 84.0]
        [Pervious     area: IAper= 5.00:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 2.00:SLPI= .50:LGI= 300.:MNI=.013:SCI=   .0]
 #-----------------|-----------------------------------------------------------|
  001:0005---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
      ADD HYD            01:EXT1           .60      .036 No_date   12:12    21.25
                       + 02:AREA         15.00      .627 No_date   12:16    19.26
        [DT= 1.00]  SUM= 03:ToPond       15.60      .658 No_date   12:15    19.34
 #-----------------|-----------------------------------------------------------|
 #-------------------------------------- B2 -----------------------------------|
 #-----------------|-----------------------------------------------------------|
  001:0006---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
      DESIGN STANDHYD    02:B2             .73      .040 No_date   12:12    20.48
        [XIMP=.68:TIMP=.85]
        [SLP= .50:DT= 1.00]
        [LOSS= 2 :CN= 84.0]
 #-----------------|-----------------------------------------------------------|
  001:0007---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
      ADD HYD            02:B2             .73      .040 No_date   12:12    20.48
                       + 03:ToPond       15.60      .658 No_date   12:15    19.34
        [DT= 1.00]  SUM= 04:SumB2        16.33      .692 No_date   12:15    19.39
 #-----------------|-----------------------------------------------------------|
 #-------------------------------------- C ------------------------------------|
 #-----------------|-----------------------------------------------------------|
  001:0008---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
      DESIGN STANDHYD    03:C              .68      .039 No_date   12:12    20.48
        [XIMP=.68:TIMP=.85]
        [SLP=1.00:DT= 1.00]
        [LOSS= 2 :CN= 84.0]
 #-----------------|-----------------------------------------------------------|
  001:0009---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
      ADD HYD            03:C              .68      .039 No_date   12:12    20.48
                       + 04:SumB2        16.33      .692 No_date   12:15    19.39
        [DT= 1.00]  SUM= 01:SumC         17.01      .722 No_date   12:14    19.43
 #-----------------|-----------------------------------------------------------|
 #---------------------------------- R4 ---------------------------------------|
 #-----------------|-----------------------------------------------------------|
  001:0010---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
      DESIGN STANDHYD    02:R4             .48      .022 No_date   12:12    17.99
        [XIMP=.56:TIMP=.70]
        [SLP= .50:DT= 1.00]
        [LOSS= 2 :CN= 84.0]
 #-----------------|-----------------------------------------------------------|
  001:0011---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
      ADD HYD            01:SumC         17.01      .722 No_date   12:14    19.43
                       + 02:R4             .48      .022 No_date   12:12    17.99
        [DT= 1.00]  SUM= 03:HighSt       17.49      .742 No_date   12:14    19.39
 #-----------------|-----------------------------------------------------------|
 #--------------------------------- B1 ----------------------------------------|
 #-----------------|-----------------------------------------------------------|
  001:0012---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
      CALIB NASHYD       02:B1             .33      .005 No_date   12:17     5.85
        [CN= 84.0: N= 3.00]
        [Tp=  .17:DT= 1.00]
 #-----------------|-----------------------------------------------------------|
 #-----------------|---- TOTAL DISCHARGE TO HIGH STREET FROM SITE -------------|
 #-----------------|-----------------------------------------------------------|
  001:0013---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
      ADD HYD            02:B1             .33      .005 No_date   12:17     5.85
                       + 03:HighSt       17.49      .742 No_date   12:14    19.39
        [DT= 1.00]  SUM= 04:SumB1        17.82      .746 No_date   12:14    19.14
 #-----------------|-----------------------------------------------------------|
 #-----------------|----------------- EXTERNAL AREA #2 ------------------------|
 #-----------------|-----------------------------------------------------------|
  001:0014---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
      CALIB NASHYD       01:EXT2          1.90      .040 No_date   12:18     8.48
        [CN= 89.0: N= 3.00]
        [Tp=  .19:DT= 1.00]
 #-----------------|-----------------------------------------------------------|
 #-----------------|-----------------GOODALL SITE-----------------------------|
 #-----------------|-----------------------------------------------------------|
  001:0015---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
      CALIB STANDHYD     02:Goodall       2.91      .104 No_date   12:15    16.64
        [XIMP=.56:TIMP=.70]
        [LOSS= 2 :CN= 84.0]
        [Pervious     area: IAper= 5.00:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 2.00:SLPI= .50:LGI= 240.:MNI=.013:SCI=   .0]
 #-----------------|-----------------------------------------------------------|
  001:0016---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
      ADD HYD            01:EXT2          1.90      .040 No_date   12:18     8.48
                       + 02:Goodall       2.91      .104 No_date   12:15    16.64
        [DT= 1.00]  SUM= 05:GdSum         4.81      .142 No_date   12:16    13.42
 #-----------------|-----------------------------------------------------------|
 #-----------------|--------- TOTAL DISCHARGE TO HIGH STREET -------------------|
 #-----------------|-----------------------------------------------------------|
  001:0017---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
      ADD HYD            04:SumB1        17.82      .746 No_date   12:14    19.14
                       + 05:GdSum         4.81      .142 No_date   12:16    13.42
        [DT= 1.00]  SUM= 03:HighTot      22.63      .886 No_date   12:14    17.93
 #-----------------|-----------------------------------------------------------|
 #----------------------------- OUTLET: CAMBRIDGE STREET ----------------------|
 #-----------------|-----------------------------------------------------------|
 #------------------------------------------ R5 -------------------------------|
 #-----------------|-----------------------------------------------------------|
  001:0018---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
      DESIGN STANDHYD    06:R5             .16      .007 No_date   12:12    17.99
        [XIMP=.56:TIMP=.70]
        [SLP= .50:DT= 1.00]
        [LOSS= 2 :CN= 84.0]
 #-----------------|-----------------------------------------------------------|
 #----------------------------- OUTLET: HOME DEPOT ----------------------------|
 #----------------------------------- SWM POND --------------------------------|
 #--------------------------------- REVISED 201 -------------------------------|
 #-----------------|-----------------------------------------------------------|
  001:0019---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
      CALIB STANDHYD     07:Rev201        2.50      .163 No_date   12:12    21.28
        [XIMP=.90:TIMP=.90]
        [LOSS= 2 :CN= 84.0]
        [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 2.00:SLPI=1.00:LGI= 130.:MNI=.013:SCI=   .0]
 #-----------------|-----------------------------------------------------------|
 #*****************************************************************************
 #************************** 24 hour SCS 5-year *******************************
 #*****************************************************************************
  001:0020---------------------------------------------------------------------
      MASS STORM
        Filename = C:\SWMHYMO\THIRDH-1\UNCONT-1\SCS24HII.mst
        Comment  = 24 hour SCS II storm mass curve
        [SDT= 1.00:SDUR=  24.00:PTOT=  62.40]
 #-----------------|-----------------------------------------------------------|
 #--------------------------------- OUTLET: HIGH STREET -----------------------|
 #-----------------|-----------------------------------------------------------|
 #-----------------|----------------- EXTERNAL AREA #1 ------------------------|
 #-----------------|-----------------------------------------------------------|
  001:0021---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
      CALIB STANDHYD     01:EXT1           .60      .104 No_date   12:12    58.16
        [XIMP=.75:TIMP=.94]
        [LOSS= 2 :CN= 84.0]
        [Pervious     area: IAper= 5.00:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 2.00:SLPI=1.00:LGI= 120.:MNI=.013:SCI=   .0]
 #-----------------|-----------------------------------------------------------|
 #-----------------|------- SITE AREA CONTRIBUTING TO SWM FACILTY -------------|
 #-----------------|-----------------------------------------------------------|
  001:0022---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
      CALIB STANDHYD     02:AREA         15.00     1.994 No_date   12:14    55.02
        [XIMP=.68:TIMP=.85]
        [LOSS= 2 :CN= 84.0]
        [Pervious     area: IAper= 5.00:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 2.00:SLPI= .50:LGI= 300.:MNI=.013:SCI=   .0]
 #-----------------|-----------------------------------------------------------|
  001:0023---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
      ADD HYD            01:EXT1           .60      .104 No_date   12:12    58.16
                       + 02:AREA         15.00     1.994 No_date   12:14    55.02
        [DT= 1.00]  SUM= 03:ToPond       15.60     2.085 No_date   12:14    55.14
 #-----------------|-----------------------------------------------------------|
 #-------------------------------------- B2 -----------------------------------|
 #-----------------|-----------------------------------------------------------|
  001:0024---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
      DESIGN STANDHYD    02:B2             .73      .116 No_date   12:12    56.32
        [XIMP=.68:TIMP=.85]
        [SLP= .50:DT= 1.00]
        [LOSS= 2 :CN= 84.0]
 #-----------------|-----------------------------------------------------------|
  001:0025---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
      ADD HYD            02:B2             .73      .116 No_date   12:12    56.32
                       + 03:ToPond       15.60     2.085 No_date   12:14    55.14
        [DT= 1.00]  SUM= 04:SumB2        16.33     2.195 No_date   12:13    55.20
 #-----------------|-----------------------------------------------------------|
```

```
#----------------------------------- C -------------------------------------|
#------------------|--------------------------------------------------------|
 001:0026---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     DESIGN STANDHYD     03:C                .68       .113 No_date    12:12    56.32
       [XIMP=.68:TIMP=.85]
       [SLP=1.00:DT= 1.00]
       [LOSS= 2 :CN= 84.0]
#------------------|--------------------------------------------------------|
 001:0027---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD             03:C                .68       .113 No_date    12:12    56.32
                       + 04:SumB2          16.33      2.195 No_date    12:13    55.20
       [DT= 1.00]  SUM=  01:SumC           17.01      2.298 No_date    12:13    55.24
#------------------|--------------------------------------------------------|
#---------------------------------- R4 -------------------------------------|
#------------------|--------------------------------------------------------|
 001:0028---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     DESIGN STANDHYD     02:R4               .48       .066 No_date    12:12    52.06
       [XIMP=.56:TIMP=.70]
       [SLP= .50:DT= 1.00]
       [LOSS= 2 :CN= 84.0]
#------------------|--------------------------------------------------------|
 001:0029---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD             01:SumC           17.01      2.298 No_date    12:13    55.24
                       + 02:R4               .48       .066 No_date    12:12    52.06
       [DT= 1.00]  SUM=  03:HighSt         17.49      2.361 No_date    12:13    55.15
#------------------|--------------------------------------------------------|
#---------------------------------- B1 -------------------------------------|
#------------------|--------------------------------------------------------|
 001:0030---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD        02:B1               .33       .028 No_date    12:17    31.15
       [CN= 84.0: N= 3.00]
       [Tp=  .17:DT= 1.00]
#------------------|--------------------------------------------------------|
#------------------|---- TOTAL DISCHARGE TO HIGH STREET FROM SITE ------------|
#------------------|--------------------------------------------------------|
 001:0031---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD             02:B1               .33       .028 No_date    12:17    31.15
                       + 03:HighSt         17.49      2.361 No_date    12:13    55.15
       [DT= 1.00]  SUM=  04:SumB1          17.82      2.387 No_date    12:13    54.71
#------------------|--------------------------------------------------------|
#------------------|----------------- EXTERNAL AREA #2 ----------------------|
#------------------|--------------------------------------------------------|
 001:0032---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD        01:EXT2            1.90       .184 No_date    12:17    38.07
       [CN= 89.0: N= 3.00]
       [Tp=  .19:DT= 1.00]
#------------------|--------------------------------------------------------|
#------------------|-----------------GOODALL SITE----------------------------|
#------------------|--------------------------------------------------------|
 001:0033---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD      02:Goodall         2.91       .344 No_date    12:13    50.47
       [XIMP=.56:TIMP=.70]
       [LOSS= 2 :CN= 84.0]
       [Pervious     area: IAper= 5.00:SLPP= .50:LGP=  40.:MNP=.250:SCP=    .0]
       [Impervious   area: IAimp= 2.00:SLPI= .50:LGI= 240.:MNI=.013:SCI=    .0]
#------------------|--------------------------------------------------------|
 001:0034---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD             01:EXT2            1.90       .184 No_date    12:17    38.07
                       + 02:Goodall         2.91       .344 No_date    12:13    50.47
       [DT= 1.00]  SUM=  05:GdSum           4.81       .517 No_date    12:14    45.57
#------------------|--------------------------------------------------------|
#------------------|---------- TOTAL DISCHARGE TO HIGH STREET ----------------|
#------------------|--------------------------------------------------------|
 001:0035---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD             04:SumB1          17.82      2.387 No_date    12:13    54.71
                       + 05:GdSum           4.81       .517 No_date    12:14    45.57
       [DT= 1.00]  SUM=  03:HighTot        22.63      2.896 No_date    12:13    52.77
#------------------|--------------------------------------------------------|
#---------------------------- OUTLET: CAMBRIDGE STREET ----------------------|
#------------------|--------------------------------------------------------|
#---------------------------------- R5 -------------------------------------|
#------------------|--------------------------------------------------------|
 001:0036---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     DESIGN STANDHYD     06:R5               .16       .022 No_date    12:12    52.06
       [XIMP=.56:TIMP=.70]
       [SLP= .50:DT= 1.00]
       [LOSS= 2 :CN= 84.0]
#------------------|--------------------------------------------------------|
#---------------------------- OUTLET: HOME DEPOT ----------------------------|
#-------------------------------- SWM POND ---------------------------------|
#------------------------------- REVISED 201 -------------------------------|
#------------------|--------------------------------------------------------|
 001:0037---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD      07:Rev201          2.50       .442 No_date    12:12    57.47
       [XIMP=.90:TIMP=.90]
       [LOSS= 2 :CN= 84.0]
       [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  40.:MNP=.250:SCP=    .0]
       [Impervious   area: IAimp= 2.00:SLPI=1.00:LGI= 130.:MNI=.013:SCI=    .0]
#------------------|--------------------------------------------------------|
#****************************************************************************
#*************************** 24 hour SCS 25-year ****************************
#****************************************************************************
 001:0038--------------------------------------------------------------------
     MASS STORM
      Filename = C:\SWMHYMO\THIRDH~1\UNCONT~1\SCS24HII.mst
      Comment  = 24 hour SCS II storm mass curve
      [SDT= 1.00:SDUR=  24.00:PTOT=  86.40]
#------------------|--------------------------------------------------------|
#------------------------------ OUTLET: HIGH STREET -------------------------|
#------------------|--------------------------------------------------------|
#------------------|----------------- EXTERNAL AREA #1 ----------------------|
#------------------|--------------------------------------------------------|
 001:0039---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD      01:EXT1             .60       .148 No_date    12:12    82.05
       [XIMP=.75:TIMP=.94]
       [LOSS= 2 :CN= 84.0]
       [Pervious     area: IAper= 5.00:SLPP= .50:LGP=  40.:MNP=.250:SCP=    .0]
       [Impervious   area: IAimp= 2.00:SLPI=1.00:LGI= 120.:MNI=.013:SCI=    .0]
#------------------|--------------------------------------------------------|
#------------------|-------- SITE AREA CONTRIBUTING TO SWM FACILTY -----------|
#------------------|--------------------------------------------------------|
 001:0040---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD      02:AREA           15.00      2.979 No_date    12:13    78.58
       [XIMP=.68:TIMP=.85]
       [LOSS= 2 :CN= 84.0]
       [Pervious     area: IAper= 5.00:SLPP= .50:LGP=  40.:MNP=.250:SCP=    .0]
       [Impervious   area: IAimp= 2.00:SLPI= .50:LGI= 300.:MNI=.013:SCI=    .0]
#------------------|--------------------------------------------------------|
 001:0041---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD             01:EXT1             .60       .148 No_date    12:12    82.05
                       + 02:AREA           15.00      2.979 No_date    12:13    78.58
       [DT= 1.00]  SUM=  03:ToPond         15.60      3.120 No_date    12:13    78.71
#------------------|--------------------------------------------------------|
#---------------------------------- B2 -------------------------------------|
#------------------|--------------------------------------------------------|
 001:0042---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     DESIGN STANDHYD     02:B2               .73       .168 No_date    12:12    79.89
       [XIMP=.68:TIMP=.85]
       [SLP= .50:DT= 1.00]
       [LOSS= 2 :CN= 84.0]
#------------------|--------------------------------------------------------|
 001:0043---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD             02:B2               .73       .168 No_date    12:12    79.89
                       + 03:ToPond         15.60      3.120 No_date    12:13    78.71
       [DT= 1.00]  SUM=  04:SumB2          16.33      3.281 No_date    12:13    78.76
#------------------|--------------------------------------------------------|
#----------------------------------- C -------------------------------------|
#------------------|--------------------------------------------------------|
 001:0044---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     DESIGN STANDHYD     03:C                .68       .162 No_date    12:12    79.89
       [XIMP=.68:TIMP=.85]
       [SLP=1.00:DT= 1.00]
       [LOSS= 2 :CN= 84.0]
#------------------|--------------------------------------------------------|
 001:0045---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD             03:C                .68       .162 No_date    12:12    79.89
                       + 04:SumB2          16.33      3.281 No_date    12:13    78.76
       [DT= 1.00]  SUM=  01:SumC           17.01      3.429 No_date    12:13    78.81
#------------------|--------------------------------------------------------|
#---------------------------------- R4 -------------------------------------|
#------------------|--------------------------------------------------------|
 001:0046---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     DESIGN STANDHYD     02:R4               .48       .090 No_date    12:12    75.03
       [XIMP=.56:TIMP=.70]
       [SLP= .50:DT= 1.00]
       [LOSS= 2 :CN= 84.0]
#------------------|--------------------------------------------------------|
 001:0047---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD             01:SumC           17.01      3.429 No_date    12:13    78.81
                       + 02:R4               .48       .099 No_date    12:12    75.03
       [DT= 1.00]  SUM=  03:HighSt         17.49      3.520 No_date    12:13    78.70
#------------------|--------------------------------------------------------|
#---------------------------------- B1 -------------------------------------|
#------------------|--------------------------------------------------------|
 001:0048---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD        02:B1               .33       .045 No_date    12:16    51.05
       [CN= 84.0: N= 3.00]
       [Tp=  .17:DT= 1.00]
#------------------|--------------------------------------------------------|
#------------------|---- TOTAL DISCHARGE TO HIGH STREET FROM SITE ------------|
#------------------|--------------------------------------------------------|
 001:0049---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD             02:B1               .33       .045 No_date    12:16    51.05
                       + 03:HighSt         17.49      3.520 No_date    12:13    78.70
       [DT= 1.00]  SUM=  04:SumB1          17.82      3.562 No_date    12:13    78.19
#------------------|--------------------------------------------------------|
#------------------|----------------- EXTERNAL AREA #2 ----------------------|
#------------------|--------------------------------------------------------|
 001:0050---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD        01:EXT2            1.90       .287 No_date    12:17    59.76
       [CN= 89.0: N= 3.00]
       [Tp=  .19:DT= 1.00]
#------------------|--------------------------------------------------------|
#------------------|-----------------GOODALL SITE----------------------------|
#------------------|--------------------------------------------------------|
 001:0051---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD      02:Goodall         2.91       .524 No_date    12:13    73.39
       [XIMP=.56:TIMP=.70]
       [LOSS= 2 :CN= 84.0]
       [Pervious     area: IAper= 5.00:SLPP= .50:LGP=  40.:MNP=.250:SCP=    .0]
       [Impervious   area: IAimp= 2.00:SLPI= .50:LGI= 240.:MNI=.013:SCI=    .0]
#------------------|--------------------------------------------------------|
 001:0052---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD             01:EXT2            1.90       .287 No_date    12:17    59.76
                       + 02:Goodall         2.91       .524 No_date    12:13    73.39
       [DT= 1.00]  SUM=  05:GdSum           4.81       .789 No_date    12:14    68.01
#------------------|--------------------------------------------------------|
#------------------|---------- TOTAL DISCHARGE TO HIGH STREET ----------------|
#------------------|--------------------------------------------------------|
 001:0053---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD             04:SumB1          17.82      3.562 No_date    12:13    78.19
                       + 05:GdSum           4.81       .789 No_date    12:14    68.01
       [DT= 1.00]  SUM=  03:HighTot        22.63      4.346 No_date    12:13    76.03
#------------------|--------------------------------------------------------|
#---------------------------- OUTLET: CAMBRIDGE STREET ----------------------|
#------------------|--------------------------------------------------------|
#---------------------------------- R5 -------------------------------------|
#------------------|--------------------------------------------------------|
 001:0054---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     DESIGN STANDHYD     06:R5               .16       .033 No_date    12:12    75.03
       [XIMP=.56:TIMP=.70]
       [SLP= .50:DT= 1.00]
       [LOSS= 2 :CN= 84.0]
#------------------|--------------------------------------------------------|
#---------------------------- OUTLET: HOME DEPOT ----------------------------|
#-------------------------------- SWM POND ---------------------------------|
#------------------------------- REVISED 201 -------------------------------|
#------------------|--------------------------------------------------------|
 001:0055---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD      07:Rev201          2.50       .627 No_date    12:12    81.07
       [XIMP=.90:TIMP=.90]
       [LOSS= 2 :CN= 84.0]
       [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  40.:MNP=.250:SCP=    .0]
       [Impervious   area: IAimp= 2.00:SLPI=1.00:LGI= 130.:MNI=.013:SCI=    .0]
#------------------|--------------------------------------------------------|
#****************************************************************************
#------------------------------ 24 hour SCS 100-year -------------------------|
#****************************************************************************
#------------------|--------------------------------------------------------|
 001:0056--------------------------------------------------------------------
     MASS STORM
      Filename = C:\SWMHYMO\THIRDH~1\UNCONT~1\SCS24HII.MST
      Comment  = 24 hour SCS II storm mass curve
      [SDT=12.00:SDUR=  24.00:PTOT= 108.00]
#------------------|--------------------------------------------------------|
#------------------------------ OUTLET: HIGH STREET -------------------------|
#------------------|--------------------------------------------------------|
#------------------|----------------- EXTERNAL AREA #1 ----------------------|
#------------------|--------------------------------------------------------|
 001:0057---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD      01:EXT1             .60       .188 No_date    12:12   103.58
       [XIMP=.75:TIMP=.94]
       [LOSS= 2 :CN= 84.0]
       [Pervious     area: IAper= 5.00:SLPP= .50:LGP=  40.:MNP=.250:SCP=    .0]
       [Impervious   area: IAimp= 2.00:SLPI=1.00:LGI= 120.:MNI=.013:SCI=    .0]
#------------------|--------------------------------------------------------|
#------------------|-------- SITE AREA CONTRIBUTING TO SWM FACILTY -----------|
#------------------|--------------------------------------------------------|
 001:0058---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD      02:AREA           15.00      3.906 No_date    12:13    99.92
       [XIMP=.68:TIMP=.85]
       [LOSS= 2 :CN= 84.0]
       [Pervious     area: IAper= 5.00:SLPP= .50:LGP=  40.:MNP=.250:SCP=    .0]
       [Impervious   area: IAimp= 2.00:SLPI= .50:LGI= 300.:MNI=.013:SCI=    .0]
#------------------|--------------------------------------------------------|
 001:0059---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD             01:EXT1             .60       .188 No_date    12:12   103.58
                       + 02:AREA           15.00      3.906 No_date    12:13    99.92
       [DT= 1.00]  SUM=  03:ToPond         15.60      4.086 No_date    12:13   100.06
#------------------|--------------------------------------------------------|
#---------------------------------- B2 -------------------------------------|
#------------------|--------------------------------------------------------|
 001:0060---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     DESIGN STANDHYD     02:B2               .73       .216 No_date    12:12   101.24
       [XIMP=.68:TIMP=.85]
       [SLP= .50:DT= 1.00]
       [LOSS= 2 :CN= 84.0]
#------------------|--------------------------------------------------------|
 001:0061---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD             02:B2               .73       .216 No_date    12:12   101.24
```

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                        + 03:ToPond          15.60     4.086 No_date    12:13  100.06
      [DT= 1.00]  SUM=  04:SumB2           16.33     4.284 No_date    12:13  100.11
#-----------------|-----------------------------------------------------------------|
#---------------------------------- C ----------------------------------------------|
#-----------------|-----------------------------------------------------------------|
 001:0062--------------ID:NHYD-------------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     DESIGN STANDHYD    03:C                  .68      .208 No_date    12:12  101.24
      [XIMP=.68:TIMP=.85]
      [SLP=1.00:DT= 1.00]
      [LOSS= 2 :CN= 84.0]
#-----------------|-----------------------------------------------------------------|
 001:0063--------------ID:NHYD-------------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            03:C                  .68      .208 No_date    12:12  101.24
                      + 04:SumB2            16.33     4.284 No_date    12:13  100.11
      [DT= 1.00]  SUM=  01:SumC             17.01     4.471 No_date    12:13  100.15
#-----------------|-----------------------------------------------------------------|
#----------------------------------- R4 --------------------------------------------|
#-----------------|-----------------------------------------------------------------|
 001:0064--------------ID:NHYD-------------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     DESIGN STANDHYD    02:R4                 .48      .129 No_date    12:12   96.01
      [XIMP=.56:TIMP=.70]
      [SLP= .50:DT= 1.00]
      [LOSS= 2 :CN= 84.0]
#-----------------|-----------------------------------------------------------------|
 001:0065--------------ID:NHYD-------------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            01:SumC             17.01     4.471 No_date    12:13  100.15
                      + 02:R4                 .48      .129 No_date    12:12   96.01
      [DT= 1.00]  SUM=  03:HighSt           17.49     4.595 No_date    12:12  100.04
#-----------------|-----------------------------------------------------------------|
#---------------------------------- B1 ---------------------------------------------|
#-----------------|-----------------------------------------------------------------|
 001:0066--------------ID:NHYD-------------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       02:B1                 .33      .062 No_date    12:16   70.08
      [CN= 84.0: N= 3.00]
      [Tp=  .17:DT= 1.00]
#-----------------|-----------------------------------------------------------------|
#-----------------|---- TOTAL DISCHARGE TO HIGH STREET FROM SITE --------------------|
#-----------------|-----------------------------------------------------------------|
 001:0067--------------ID:NHYD-------------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            02:B1                 .33      .062 No_date    12:16   70.08
                      + 03:HighSt           17.49     4.595 No_date    12:12  100.04
      [DT= 1.00]  SUM=  04:SumB1            17.82     4.650 No_date    12:12   99.49
#-----------------|----------------------------------------------------------------|
#-----------------|---------------- EXTERNAL AREA #2 -------------------------------|
#-----------------|----------------------------------------------------------------|
 001:0068--------------ID:NHYD-------------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       01:EXT2              1.90      .380 No_date    12:17   79.98
      [CN= 89.0: N= 3.00]
      [Tp=  .19:DT= 1.00]
#-----------------|-----------------------------------------------------------------|
#-----------------|---------------GOODALL SITE--------------------------------------|
#-----------------|-----------------------------------------------------------------|
 001:0069--------------ID:NHYD-------------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD     02:Goodall           2.91      .696 No_date    12:13   94.35
      [XIMP=.56:TIMP=.70]
      [LOSS= 2 :CN= 84.0]
      [Pervious     area: IAper= 5.00:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI= .50:LGI= 240.:MNI=.013:SCI=   .0]
#-----------------|-----------------------------------------------------------------|
 001:0070--------------ID:NHYD-------------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            01:EXT2              1.90      .380 No_date    12:17   79.98
                      + 02:Goodall           2.91      .696 No_date    12:13   94.35
      [DT= 1.00]  SUM=  05:GdSum             4.81     1.050 No_date    12:14   88.67
#-----------------|-----------------------------------------------------------------|
#-----------------|---------- TOTAL DISCHARGE TO HIGH STREET ------------------------|
#-----------------|-----------------------------------------------------------------|
 001:0071--------------ID:NHYD-------------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            04:SumB1            17.82     4.650 No_date    12:12   99.49
                      + 05:GdSum             4.81     1.050 No_date    12:14   88.67
      [DT= 1.00]  SUM=  03:HighTot          22.63     5.691 No_date    12:13   97.19
#-----------------|-----------------------------------------------------------------|
#--------------------------- OUTLET: CAMBRIDGE STREET ------------------------------|
#-----------------|-----------------------------------------------------------------|
#------------------------------------- R5 ------------------------------------------|
#-----------------|-----------------------------------------------------------------|
 001:0072--------------ID:NHYD-------------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     DESIGN STANDHYD    06:R5                 .16      .044 No_date    12:12   96.01
      [XIMP=.56:TIMP=.70]
      [SLP= .50:DT= 1.00]
      [LOSS= 2 :CN= 84.0]
#-----------------|-----------------------------------------------------------------|
#--------------------------- OUTLET: HOME DEPOT ------------------------------------|
#---------------------------------- SWM POND ---------------------------------------|
#--------------------------------- REVISED 201 -------------------------------------|
#-----------------|-----------------------------------------------------------------|
 001:0073--------------ID:NHYD-------------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD     07:Rev201            2.50      .794 No_date    12:12  102.41
      [XIMP=.90:TIMP=.90]
      [LOSS= 2 :CN= 84.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI=1.00:LGI= 130.:MNI=.013:SCI=   .0]
#-----------------|-----------------------------------------------------------------|
#***********************************************************************************
#------------------------------------- REGIONAL EVENT ------------------------------|
#***********************************************************************************
#-----------------|-----------------------------------------------------------------|
 001:0074-------------------------------------------------------------------------
     READ STORM
      Filename = tim.STM
      Comment  =
      [SDT=60.00:SDUR=  12.00:PTOT= 193.00]
#-----------------|-----------------------------------------------------------------|
#-------------------------------------- OUTLET: HIGH STREET ------------------------|
#-----------------|-----------------------------------------------------------------|
#-----------------|---------------- EXTERNAL AREA #1 -------------------------------|
#-----------------|-----------------------------------------------------------------|
 001:0075--------------ID:NHYD-------------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD     01:EXT1               .60      .071 No_date     7:00  188.46
      [XIMP=.75:TIMP=.94]
      [LOSS= 2 :CN= 84.0]
      [Pervious     area: IAper= 5.00:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI=1.00:LGI= 120.:MNI=.013:SCI=   .0]
#-----------------|-----------------------------------------------------------------|
#-----------------|------- SITE AREA CONTRIBUTING TO SWM FACILTY -------------------|
#-----------------|-----------------------------------------------------------------|
 001:0076--------------ID:NHYD-------------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD     02:AREA             15.00     1.742 No_date     7:00  184.40
      [XIMP=.68:TIMP=.85]
      [LOSS= 2 :CN= 84.0]
      [Pervious     area: IAper= 5.00:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI= .50:LGI= 300.:MNI=.013:SCI=   .0]
#-----------------|-----------------------------------------------------------------|
 001:0077--------------ID:NHYD-------------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            01:EXT1               .60      .071 No_date     7:00  188.46
                      + 02:AREA             15.00     1.742 No_date     7:00  184.40
      [DT= 1.00]  SUM=  03:ToPond           15.60     1.814 No_date     7:00  184.56
#-----------------|-----------------------------------------------------------------|
#---------------------------------- B2 ---------------------------------------------|
#-----------------|-----------------------------------------------------------------|
 001:0078--------------ID:NHYD-------------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     DESIGN STANDHYD    02:B2                 .73      .086 No_date     7:00  185.74
      [XIMP=.68:TIMP=.85]
      [SLP= .50:DT= 1.00]
      [LOSS= 2 :CN= 84.0]
#-----------------|-----------------------------------------------------------------|
 001:0079--------------ID:NHYD-------------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            02:B2                 .73      .086 No_date     7:00  185.74
                      + 03:ToPond           15.60     1.814 No_date     7:00  184.56
      [DT= 1.00]  SUM=  04:SumB2            16.33     1.900 No_date     7:00  184.61
#-----------------|-----------------------------------------------------------------|
#---------------------------------- C ----------------------------------------------|
#-----------------|-----------------------------------------------------------------|
 001:0080--------------ID:NHYD-------------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     DESIGN STANDHYD    03:C                  .68      .080 No_date     7:00  185.74
      [XIMP=.68:TIMP=.85]
      [SLP=1.00:DT= 1.00]
      [LOSS= 2 :CN= 84.0]
#-----------------|-----------------------------------------------------------------|
 001:0081--------------ID:NHYD-------------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            03:C                  .68      .080 No_date     7:00  185.74
                      + 04:SumB2            16.33     1.900 No_date     7:00  184.61
      [DT= 1.00]  SUM=  01:SumC             17.01     1.980 No_date     7:00  184.66
#-----------------|-----------------------------------------------------------------|
#----------------------------------- R4 --------------------------------------------|
#-----------------|-----------------------------------------------------------------|
 001:0082--------------ID:NHYD-------------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     DESIGN STANDHYD    02:R4                 .48      .055 No_date     7:00  179.72
      [XIMP=.56:TIMP=.70]
      [SLP= .50:DT= 1.00]
      [LOSS= 2 :CN= 84.0]
#-----------------|-----------------------------------------------------------------|
 001:0083--------------ID:NHYD-------------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            01:SumC             17.01     1.980 No_date     7:00  184.66
                      + 02:R4                 .48      .055 No_date     7:00  179.72
      [DT= 1.00]  SUM=  03:HighSt           17.49     2.035 No_date     7:00  184.52
#-----------------|----------------------------------------------------------------|
#---------------------------------- B1 --------------------------------------------|
#-----------------|----------------------------------------------------------------|
 001:0084--------------ID:NHYD-------------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       02:B1                 .33      .035 No_date     7:00  149.52
      [CN= 84.0: N= 3.00]
      [Tp=  .17:DT= 1.00]
#-----------------|----------------------------------------------------------------|
#-----------------|---- TOTAL DISCHARGE TO HIGH STREET FROM SITE -------------------|
#-----------------|----------------------------------------------------------------|
 001:0085--------------ID:NHYD-------------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            02:B1                 .33      .035 No_date     7:00  149.52
                      + 03:HighSt           17.49     2.035 No_date     7:00  184.52
      [DT= 1.00]  SUM=  04:SumB1            17.82     2.070 No_date     7:00  183.87
#-----------------|----------------------------------------------------------------|
#-----------------|---------------- EXTERNAL AREA #2 -------------------------------|
#-----------------|----------------------------------------------------------------|
 001:0086--------------ID:NHYD-------------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       01:EXT2              1.90      .214 No_date     7:00  162.18
      [CN= 89.0: N= 3.00]
      [Tp=  .19:DT= 1.00]
#-----------------|----------------------------------------------------------------|
#-----------------|---------------GOODALL SITE-------------------------------------|
#-----------------|----------------------------------------------------------------|
 001:0087--------------ID:NHYD-------------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD     02:Goodall           2.91      .329 No_date     7:00  178.02
      [XIMP=.56:TIMP=.70]
      [LOSS= 2 :CN= 84.0]
      [Pervious     area: IAper= 5.00:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI= .50:LGI= 240.:MNI=.013:SCI=   .0]
#-----------------|-----------------------------------------------------------------|
 001:0088--------------ID:NHYD-------------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            01:EXT2              1.90      .214 No_date     7:00  162.18
                      + 02:Goodall           2.91      .329 No_date     7:00  178.02
      [DT= 1.00]  SUM=  05:GdSum             4.81      .543 No_date     7:00  171.76
#-----------------|-----------------------------------------------------------------|
#-----------------|---------- TOTAL DISCHARGE TO HIGH STREET ------------------------|
#-----------------|-----------------------------------------------------------------|
 001:0089--------------ID:NHYD-------------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            04:SumB1            17.82     2.070 No_date     7:00  183.87
                      + 05:GdSum             4.81      .543 No_date     7:00  171.76
      [DT= 1.00]  SUM=  03:HighTot          22.63     2.613 No_date     7:00  181.30
#-----------------|-----------------------------------------------------------------|
#--------------------------- OUTLET: CAMBRIDGE STREET ------------------------------|
#-----------------|-----------------------------------------------------------------|
#------------------------------------- R5 ------------------------------------------|
#-----------------|-----------------------------------------------------------------|
 001:0090--------------ID:NHYD-------------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     DESIGN STANDHYD    06:R5                 .16      .018 No_date     7:00  179.72
      [XIMP=.56:TIMP=.70]
      [SLP= .50:DT= 1.00]
      [LOSS= 2 :CN= 84.0]
#-----------------|-----------------------------------------------------------------|
#--------------------------- OUTLET: HOME DEPOT ------------------------------------|
#---------------------------------- SWM POND ---------------------------------------|
#--------------------------------- REVISED 201 -------------------------------------|
#-----------------|-----------------------------------------------------------------|
 001:0091--------------ID:NHYD-------------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD     07:Rev201            2.50      .295 No_date     7:00  186.85
      [XIMP=.90:TIMP=.90]
      [LOSS= 2 :CN= 84.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI=1.00:LGI= 130.:MNI=.013:SCI=   .0]
#-----------------|-----------------------------------------------------------------|
 001:0092-------------------------------------------------------------------------
      FINISH
----------------------------------------------------------------------------------
**********************************************************************************
     WARNINGS / ERRORS / NOTES
     -------------------------
   Simulation ended on 2015-04-09     at 09:28:49
==================================================================================
```

CROZIER & ASSOCIATES
Consulting Engineers

Project Name:	Third & High St	**D.A. NAME**	**EXT 1**
Project Number:	183-2697	**D.A. AREA (ha)**	**0.6**
Date:	4/8/2015		
By:	TM		

Hydrologic Parameters: CALIB STANDHYD Command
Post Development Drainage Area: EXT 1

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic Group	% Area	Area
Kemble Clay Loam	Kc	D	100	0.6
				0
				0
				0
Total Area Check				0.6

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
Kc	0.451	98	0	98	0	98	0.113	98	0	98	0.564	55.272
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	0.451		0		0		0.113		0			

Pervious Landuses Present:												
	Woodland		Meadow/Pasture		Wetland		Lawn		Cultivated		Subtotals	
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area	A*CN
Kc	0		0		0		0.036	84	0		0.036	3.024
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		0.036		0			

	Pervious Area Calculations	Total Pervious Area	0.036
		Composite Pervious Curve Number	84
	Impervious Area Calculations	Total Directly Connected Area	0.451
		Total Indirectly Connected Area	0.113
		Total Impervious Area	0.564
		% X imp	75
		% T imp	94
		Total Area Check	0.6

Initial Abstraction and Tp Calculations

Landuse	IA (mm)	Area (ha)	A * IA
Woodland	10	0	0
Meadow/Pastu	8	0	0
Wetland	16	0	0
Lawn	5	0.036	0.18
Cultivated	7	0	0

Land Use	IA (mm)	Slope (%)	Travel Length (m)	Manning's n
Pervious	5.0	0.5	40	0.25
Impervious	2.0	1	120	0.013

CROZIER & ASSOCIATES
Consulting Engineers

Project Name:	Third & High St	**D.A. NAME**	**POND**
Project Number:	183-2697	**D.A. AREA (ha)**	**15.0**
Date:	April 8, 2015		
By:	TM		

Hydrologic Parameters: STANDHYD Command
Post Development Drainage Area: POND

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic Group	% Area	Area
Kemble Clay	Kc	D	100	15.00
				0.00
				0.00
				0.00
Total Area Check				15.00

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
Kc	9.20	98	0	98	0.00	98	2.30	98	0.67	98	12.17	1192.66
0		98		98		98		98		98	0.00	0.00
0		98		98		98		98		98	0.00	0.00
0		98		98		98		98		98	0.00	0.00
Subtotal Area	9.20		0		0.00		2.30		0.67		12.17	

Pervious Landuses Present:												
	Woodland		Meadow/Pasture		Wetland		Lawn		Cultivated		Subtotals	
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area	A*CN
Kc	0		0		0		2.83	84	0		2.83	237.72
0	0		0		0		0.00		0		0.00	0.00
0	0		0		0		0.00		0		0.00	0.00
0	0		0		0		0.00		0		0.00	0.00
Subtotal Area	0		0		0		2.83		0			

	Pervious Area Calculations	Total Pervious Area	2.83
		Composite Pervious Curve Number (*)	84.00
	Impervious Area Calculations	Total Directly Connected Area	9.87
		Total Indirectly Connected Area	2.30
		Total Impervious Area	12
		% X imp (**)	66
		% T imp	81.13
		Total Area Check	15.00

Initial Abstraction and Tp Calculations

Landuse	IA (mm)	Area (ha)	A * IA
Woodland	10	0	0
Meadow/Pastu	8	0	0
Wetland	16	0	0
Lawn	5	2.83	14.15
Cultivated	7	0	0

Land Use	IA (mm)	Slope (%)	Travel Length (m)	Manning's n
Pervious	5.0	0.5%	40	0.25
Impervious	2.0	0.5%	450	0.013

*

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Consulting Engineers

Project Name:	Third & High St	**D.A. NAME**	**B2**
Project Number:	183-2697	**D.A. AREA (ha)**	**0.73**
Date:	4/8/2015		
By:	TM		

Hydrologic Parameters: CALIB STANDHYD Command
Post Development Drainage Area: B2

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic Group	% Area	Area
Kemble Clay Loam	Kc	D	100	0.73
				0
				0
				0
Total Area Check				0.73

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
Kc	0.5	98	0	98	0	98	0.12	98	0	98	0.62	60.76
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	0.5		0		0		0.12		0			

Pervious Landuses Present:												
	Woodland		Meadow/Pasture		Wetland		Lawn		Cultivated		Subtotals	
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area	A*CN
Kc	0		0		0		0.11	84	0		0.11	9.24
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		0.11		0			

	Pervious Area Calculations	Total Pervious Area	0.11
		Composite Pervious Curve Number	84
	Impervious Area Calculations	Total Directly Connected Area	0.5
		Total Indirectly Connected Area	0.12
		Total Impervious Area	0.62
		% X imp	68
		% T imp	85
		Total Area Check	0.73

Initial Abstraction and Tp Calculations

Landuse	IA (mm)	Area (ha)	A * IA
Woodland	10	0	0
Meadow/Pastu	8	0	0
Wetland	16	0	0
Lawn	5	0.11	0.55
Cultivated	7	0	0

Land Use	IA (mm)	Slope (%)	Travel Length (m)	Manning's n
Pervious	5.0	0.5	40	0.25
Impervious	2.0	0.5	70	0.013

CROZIER & ASSOCIATES
Consulting Engineers

Project Name:	Third & High St	**D.A. NAME**	**C**
Project Number:	183-2697	**D.A. AREA (ha)**	**0.68**
Date:	4/8/2015		
By:	TM		

Hydrologic Parameters: CALIB STANDHYD Command
Post Development Drainage Area: C

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic Group	% Area	Area
Kemble Clay Loam	Kc	D	100	0.68
				0
				0
				0
Total Area Check				0.68

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
Kc	0.464	98	0	98	0	98	0.116	98	0	98	0.58	56.84
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	0.464		0		0		0.116		0			

Pervious Landuses Present:												
	Woodland		Meadow/Pasture		Wetland		Lawn		Cultivated		Subtotals	
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area	A*CN
Kc	0		0		0		0.1	84	0		0.1	8.4
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		0.1		0			

	Pervious Area Calculations	Total Pervious Area	0.1
		Composite Pervious Curve Number	84
	Impervious Area Calculations	Total Directly Connected Area	0.464
		Total Indirectly Connected Area	0.116
		Total Impervious Area	0.58
		% X imp	68
		% T imp	85
		Total Area Check	0.68

Initial Abstraction and Tp Calculations

Landuse	IA (mm)	Area (ha)	A * IA
Woodland	10	0	0
Meadow/Pastu	8	0	0
Wetland	16	0	0
Lawn	5	0.1	0.5
Cultivated	7	0	0

Land Use	IA (mm)	Slope (%)	Travel Length (m)	Manning's n
Pervious	5.0	1	40	0.25
Impervious	2.0	1	67	0.013

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Project Name:	Third & High St	**D.A. NAME**	**R4**
Project Number:	183-2697	**D.A. AREA (ha)**	**0.48**
Date:	4/8/2015		
By:	TM		

Hydrologic Parameters: CALIB STANDHYD Command
Post Development Drainage Area: R4

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic Group	% Area	Area
Kemble Clay Loam	Kc	D	100	0.48
				0
				0
				0
Total Area Check				0.48

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
Kc	0.269	98	0	98	0	98	0.067	98	0	98	0.336	32.928
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	0.269		0		0		0.067		0			

Pervious Landuses Present:												
	Woodland		Meadow/Pasture		Wetland		Lawn		Cultivated		Subtotals	
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area	A*CN
Kc	0		0		0		0.144	84	0		0.144	12.096
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		0.144		0			

Pervious Area Calculations	Total Pervious Area	0.144
	Composite Pervious Curve Number	84
Impervious Area Calculations	Total Directly Connected Area	0.269
	Total Indirectly Connected Area	0.067
	Total Impervious Area	0.336
	% X imp	56
	% T imp	70
	Total Area Check	0.48

Initial Abstraction and Tp Calculations

Landuse	IA (mm)	Area (ha)	A * IA
Woodland	10	0	0
Meadow/Pastu	8	0	0
Wetland	16	0	0
Lawn	5	0.144	0.72
Cultivated	7	0	0

Land Use	IA (mm)	Slope (%)	Travel Length (m)	Manning's n
Pervious	5.0	0.5	40	0.25
Impervious	2.0	0.5	57	0.013

CROZIER & ASSOCIATES
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Project	Third & High St	**D.A.**	**B1**
Project	183-2697	**D.A.**	**0.33**
Date:	4/8/2015		
By:	TM		

Hydrologic Parameters: CALIB NASHYD Command
Drainage Area B1

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic Group	% Area	Area
Kemble Clay Loam	Kc	D	100	0.33
				0
				0
				0
Total Area				0.33

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
Kc		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 Area	0		0		0		0		0			

Pervious Landuses Present:												
	Woodland		Meadow/Pasture		Wetland		Lawn		Cultivated		Subtotals	
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area	A*CN
Kc	0.00		0.00		0.00		0.33	84	0.00		0.33	27.72
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 Area	0.00		0.00		0.00		0.33		0.00			

Composite Area Calculations		
	Total Pervious Area	0.33
	Total Impervious Area	0
	% Impervious	0.0
	Composite Curve Number	84.0
	Total Area Check	0.33

Initial Abstraction and Tp Calculations

Initial Abstraction				Composite Curve Number								
				Kemble Clay Loam		0		0		0		
Landuse	IA (mm)	Area (ha)	A * IA	RC	Area	RC	Area	RC	Area	RC	Area	A*RC
Woodland	10	0	0		0.00		0		0		0	0
Meadow/Past	8	0	0		0.00		0		0		0	0
Wetland	16	0	0		0.00		0		0		0	0
Lawn	5	0.33	1.65	0.40	0.33		0		0		0	0.132
Cultivated	7	0	0		0.00		0		0		0	0
Impervious	2	0	0		0.00		0		0		0	0
Composite IA		0.33	5	Composite Runoff Coefficient								0.4

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)
	162	0.26	0.16%	2.3	0.09	0.49	0.33	0.33	0.25	0.17	0.89	0.59
			#DIV/0!		#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!				

Appropriate calculated time to peak:	0.17	Appropriate Method:	B-W

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Project	Third & High St	D.A.	EXT 2
Project	183-2697	D.A.	1.9
Date:	4/8/2015		
By:	TM		

Hydrologic Parameters: CALIB NASHYD Command
Drainage Area EXT 2

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic Group	% Area	Area
Kemble Clay Loam	Kc	D	100	1.9
				0
				0
				0
Total Area				1.9

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
Kc		98		98	0.48	98	0.2	98		98	0.68	66.64
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		0.48		0.2		0			

Pervious Landuses Present:												
	Woodland		Meadow/Pasture		Wetland		Lawn		Cultivated		Subtotals	
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area	A*CN
Kc	0.00		0.00		0.00		1.22	84	0.00		1.22	102.48
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 Area	0.00		0.00		0.00		1.22		0.00			

Composite Area Calculations	Total Pervious Area	1.22	
	Total Impervious Area	0.68	
	% Impervious	0.36	
	Composite Curve Number	89.0	
	Total Area Check	1.9	

Initial Abstraction and Tp Calculations

Initial Abstraction				Composite Curve Number								
				Kemble Clay Loam		0		0		0		
Landuse	IA (mm)	Area (ha)	A * IA	RC	Area	RC	Area	RC	Area	RC	Area	A*RC
Woodland	10	0	0		0.00		0		0		0	0
Meadow/Past	8	0	0		0.00		0		0		0	0
Wetland	16	0	0		0.00		0		0		0	0
Lawn	5	1.22	6.1	0.28	1.22		0		0		0	0.3416
Cultivated	7	0	0		0.00		0		0		0	0
Impervious	2	0.68	1.36	0.90	0.68		0		0		0	0.612
Composite IA		1.9	3.926316	Composite Runoff Coefficient								0.50189

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)
	350	5.8	1.66%	2.3	0.30	0.33	0.22	0.22	0.28	0.19	0.51	0.34
			#DIV/0!		#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!				

Appropriate calculated time to peak:	0.19	Appropriate Method:	B-W

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Project Name:	Third & High St	**D.A. NAME**	**Goodall**
Project Number:	183-2697	**D.A. AREA (ha)**	**2.91**
Date:	4/8/2015		
By:	TM		

Hydrologic Parameters: CALIB STANDHYD Command
Post Development Drainage Area: Goodall

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic Group	% Area	Area
Kemble Clay Loam	Kc	D	100	2.91
				0
				0
				0
Total Area Check				2.91

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
Kc	1.63	98	0	98	0	98	0.41	98	0	98	2.04	199.92
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	1.63		0		0		0.41		0			

Pervious Landuses Present:												
	Woodland		Meadow/Pasture		Wetland		Lawn		Cultivated		Subtotals	
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area	A*CN
Kc	0		0		0		0.87	84	0		0.87	73.08
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		0.87		0			

	Pervious Area Calculations	Total Pervious Area	0.87
		Composite Pervious Curve Number	84
	Impervious Area Calculations	Total Directly Connected Area	1.63
		Total Indirectly Connected Area	0.41
		Total Impervious Area	2.04
		% X imp	56
		% T imp	70
		Total Area Check	2.91

Initial Abstraction and Tp Calculations

Landuse	IA (mm)	Area (ha)	A * IA
Woodland	10	0	0
Meadow/Pastu	8	0	0
Wetland	16	0	0
Lawn	5	0.87	4.35
Cultivated	7	0	0

Land Use	IA (mm)	Slope (%)	Travel Length (m)	Manning's n
Pervious	5.0	0.5	40	0.25
Impervious	2.0	0.5	240	0.013

CROZIER & ASSOCIATES
Consulting Engineers

Project Name:	Third & High St	**D.A. NAME**	**R5**
Project Number:	183-2697	**D.A. AREA (ha)**	**0.16**
Date:	4/8/2015		
By:	TM		

Hydrologic Parameters: CALIB STANDHYD Command
Post Development Drainage Area: R5

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic Group	% Area	Area
Kemble Clay Loam	Kc	D	100	0.16
				0
				0
				0
Total Area Check				0.16

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
Kc	0.090	98	0	98	0	98	0.022	98	0	98	0.112	10.976
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	0.0896		0		0		0.0224		0			

Pervious Landuses Present:												
	Woodland		Meadow/Pasture		Wetland		Lawn		Cultivated		Subtotals	
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area	A*CN
Kc	0		0		0		0.048	84	0		0.048	4.032
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		0.048		0			

	Pervious Area Calculations	Total Pervious Area	0.048
		Composite Pervious Curve Number	84
	Impervious Area Calculations	Total Directly Connected Area	0.0896
		Total Indirectly Connected Area	0.0224
		Total Impervious Area	0.112
		% X imp	56
		% T imp	70
		Total Area Check	0.16

Initial Abstraction and Tp Calculations

Landuse	IA (mm)	Area (ha)	A * IA
Woodland	10	0	0
Meadow/Pastu	8	0	0
Wetland	16	0	0
Lawn	5	0.048	0.24
Cultivated	7	0	0

Land Use	IA (mm)	Slope (%)	Travel Length (m)	Manning's n
Pervious	5.0	0.5	40	0.25
Impervious	2.0	0.5	33	0.013

CROZIER & ASSOCIATES
Consulting Engineers

Project Name:	Third & High St	**D.A. NAME**	**REV 201**
Project Number:	183-2697	**D.A. AREA (ha)**	**2.5**
Date:	4/8/2015		
By:	TM		

Hydrologic Parameters: CALIB STANDHYD Command
Post Development Drainage Area: REV 201

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic Group	% Area	Area
Kemble Clay Loam	Kc	D	100	2.5
				0
				0
				0
Total Area Check				2.5

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
Kc	2.25	98	0	98	0	98	0	98	0	98	2.25	220.5
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	2.25		0		0		0		0			

Pervious Landuses Present:												
	Woodland		Meadow/Pasture		Wetland		Lawn		Cultivated		Subtotals	
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area	A*CN
Kc	0		0		0		0.25	84	0		0.25	21
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		0.25		0			

Pervious Area Calculations	Total Pervious Area	0.25
	Composite Pervious Curve Number	84
Impervious Area Calculations	Total Directly Connected Area	2.25
	Total Indirectly Connected Area	0
	Total Impervious Area	2.25
	% X imp	90
	% T imp	90
	Total Area Check	2.5

Initial Abstraction and Tp Calculations

Landuse	IA (mm)	Area (ha)	A * IA
Woodland	10	0	0
Meadow/Pastu	8	0	0
Wetland	16	0	0
Lawn	5	0.25	1.25
Cultivated	7	0	0

Land Use	IA (mm)	Slope (%)	Travel Length (m)	Manning's n
Pervious	5.0	2	40	0.25
Impervious	2.0	1	129	0.013

APPENDIX G

Regional SWM Facility Design

CROZIER & ASSOCIATES
Consulting Engineers

Project:	**Third St/High St**
Project No.:	**183-2697**
File:	**Pond Hydraulic Design**
Design by:	**T. MacDougall**
Date:	**9-Apr-15**

WEST END COMMERCIAL - 4 POND SWM FACILITY

Pond Stage - Storage - Discharge Calculations

Ext Detention Orifice Diameter:	0.12 m
Ext Detention Orifice Invert Elevation:	180.4 m
Emergency Spill Elev.	182.3 m
Emerg Spill Bot. Width	3 m
Trap. Side Slopes	6 :1 H:V

Permanent Pool Volumes

NW, SW, SE Ponds (Individual)

Forebay Elev. (m)	Area (sqm)	Volume (cu.m)	Main Cell Elev. (m)	Area (sqm)	Volume (cu.m)
179.20	105		180.10	840	
180.40	500	363	180.40	1078	288

NE Pond

Elev. (m)	Area (sqm)	Volume (cu.m)	Elev. (m)	Area (sqm)	Volume (cu.m)
179.20	87		180.10	670	
180.40	450	322.2	180.40	805	221

Total Permanent Pool Volume **2496** **cu.m**

	Elev.	Depth Above PP	NE Pond Area	NE Pond Storage Vol	SE Pond Area	SE Pond Storage Vol	SW Pond Area	SW Pond Storage Vol	NW Pond Area	NW Pond Storage Vol	Total Storage Vol	ED Orifice Discharge	Upper Orifice Discharge	E. Spillway Width	E.Spillway Discharge	Total Discharge	Storage
	(m)	(m)	(sqm)	(cu.m)	(sqm)	(cu.m)	(sqm)	(cu.m)	(sqm)	(cu.m)	(cu.m)	(cu.m/s)	(cu.m/s)	(m)	(cu.m/s)	(cu.m/s)	(ha-m)
	180.35																0
PP	180.40	0.00	1255	0	1578	0	1578	0	1578	0	0	0.0000	0.000			0.000	0.000
	180.45	0.05	1301	64	1647	81	1647	81	1647	81	306	0.0000	0.000	0.0	0.000	0.000	0.031
	180.50	0.10	1347	130	1715	165	1715	165	1715	165	624	0.0064	0.000	0.0	0.000	0.006	0.062
	180.55	0.15	1393	199	1784	252	1784	252	1784	252	955	0.0096	0.000	0.0	0.000	0.010	0.095
	180.60	0.20	1439	269	1852	343	1852	343	1852	343	1298	0.0120	0.000	0.0	0.000	0.012	0.130
	180.65	0.25	1485	342	1921	437	1921	437	1921	437	1654	0.0140	0.000	0.0	0.000	0.014	0.165
	180.70	0.30	1531	418	1989	535	1989	535	1989	535	2023	0.0157	0.000	0.0	0.000	0.016	0.202
	180.75	0.35	1576	495	2058	636	2058	636	2058	636	2404	0.0173	0.000	0.0	0.000	0.017	0.240
	180.80	0.40	1622	575	2126	741	2126	741	2126	741	2798	0.0187	0.000	0.0	0.000	0.019	0.280
ED Volume	180.85	0.45	1668	658	2195	849	2195	849	2195	849	3204	0.0200	0.000	0.0	0.000	0.020	0.320
	180.90	0.50	1714	742	2263	960	2263	960	2263	960	3623	0.0213	0.000	0.0	0.000	0.021	0.362
	180.95	0.55	1760	829	2332	1075	2332	1075	2332	1075	4054	0.0224	0.000	0.0	0.000	0.022	0.405
	181.00	0.60	1806	918	2400	1193	2400	1193	2400	1193	4499	0.0236	0.000	0.0	0.000	0.024	0.450
	181.05	0.65	1872	1010	2447	1315	2447	1315	2447	1315	4954	0.0246	0.000	0.0	0.000	0.025	0.495
	181.10	0.70	1938	1106	2494	1438	2494	1438	2494	1438	5420	0.0256	0.000	0.0	0.000	0.026	0.542
	181.20	0.80	2004	1303	2540	1690	2540	1690	2540	1690	6372	0.0276	0.000	0.0	0.000	0.028	0.637
	181.30	0.90	2070	1506	2587	1946	2587	1946	2587	1946	7345	0.0294	0.000	0.0	0.000	0.029	0.734
	181.40	1.00	2136	1717	2634	2207	2634	2207	2634	2207	8338	0.0311	0.000	0.0	0.000	0.031	0.834
	181.50	1.10	2202	1934	2681	2473	2681	2473	2681	2473	9352	0.0327	0.000	0.0	0.000	0.033	0.935
	181.60	1.20	2268	2157	2728	2743	2728	2743	2728	2743	10387	0.0342	0.000	0.0	0.000	0.034	1.039
	181.70	1.30	2334	2387	2775	3019	2775	3019	2775	3019	11443	0.0357	0.000	0.0	0.000	0.036	1.144
	181.80	1.40	2400	2624	2821	3298	2821	3298	2821	3298	12519	0.0371	0.000	0.0	0.000	0.037	1.252
100 YR HWL	181.90	1.50	2466	2867	2868	3583	2868	3583	2868	3583	13616	0.0385	0.000	0.0	0.000	0.038	1.362
	182.00	1.60	2532	3117	2915	3872	2915	3872	2915	3872	14733	0.0398	0.000	0.0	0.000	0.040	1.473
	182.10	1.70	2652	3376	2962	4166	2962	4166	2962	4166	15874	0.0411	0.000	0.0	0.000	0.041	1.587
	182.20	1.80	2771	3647	3009	4464	3009	4464	3009	4464	17040	0.0423	0.000	0.0	0.000	0.042	1.704
Emerg Spillway	182.30	1.90	2891	3930	3055	4768	3055	4768	3055	4768	18233	0.0435	0.000	3.0	0.000	0.043	1.823
	182.40	2.00	3011	4226	3056	5073	3056	5073	3056	5073	19445	0.0447	0.000	3.6	0.178	0.222	1.944
	182.50	2.10	3130	4533	3057	5379	3057	5379	3057	5379	20669	0.0458	0.000	4.8	0.670	0.716	2.067
TOB	182.60	2.20	3250	4852	3058	5685	3058	5685	3058	5685	21905	0.0469	0.000	6.6	1.692	1.739	2.191

CROZIER & ASSOCIATES
Consulting Engineers

Project:	Third St/High St
Project No.:	183-2697
File:	Pond Hydraulic Design
Design by:	T. MacDougall
Date:	9-Apr-15

EXTENDED DETENTION SPECIFICATIONS

Extended Detention Volume (Area x runoff from 25mm event)		2925
t (drawdown time - seconds, *hours in italics*)	*86.0*	309600
Ao (cross section area of orifice - sqm)		0.011
h (maximum water elevation above orifice for extended detention- m)		**0.45**
C (discharge coefficient)		0.64
Ap (average surface area for extended detention - sqm)		7408

t = 2*Ap*(h^0.5)/(C*Ao*(g*2)^0.5)

Ao = 0.01132418 m

d = 120 mm (max dia to provide control)

Extended Detention Orifice Diameter (as designed) d = **120** mm

APPENDIX H

Phase 1 Drainage Design

CROZIER & ASSOCIATES
Consulting Engineers

Date APRIL 8/15 Project No: 183-2097 Prepared By: D TONE Reviewed By:

Project: WEST END COMMERCIAL

Subject: NE POND - WATER QUALITY REQUIREMENTS - PHASE 1

P.P. vol':

	% Imp.	Catchment Area (ha)	% Imp
WEST PPF		11.1	0%
NORTH		1.01	78%
SOUTH		0.57	90%
EXT AREA		0.79	20%
		13.5	

% imp = 14%

MOE (2003) - Table 3.2

$$\frac{105-80}{55-35} = \frac{105-x}{55-14}$$

$$51.25 = 105 - x$$

$$x = 54 \text{ m}^3/\text{ha}$$

$$\therefore PP_{vol} = (54-40)\frac{\text{m}^3}{\text{ha}} \times 13.5 \text{ ha}$$

$$= 189 \text{ m}^3$$

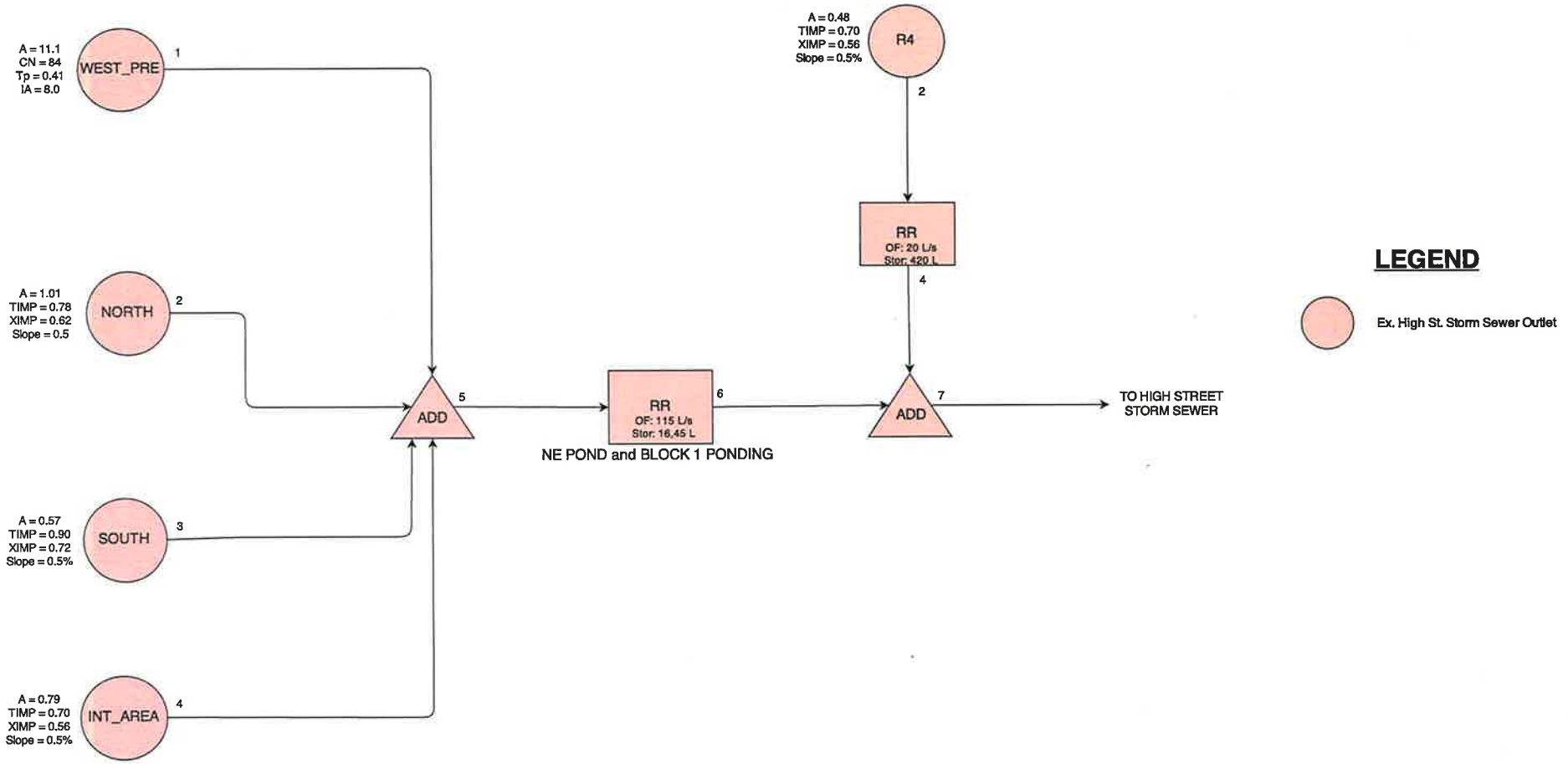
25mm ED.

Per Phase 1 Summary,

$$13.5 \text{ ha} \times 6.8 \text{ mm} \times 10 = 920 \text{ m}^3$$

West End Commercial - Interim Condition (Phase 1)

Apr. 9, 2015
183-2697



CONTROLLED


```
 2      Metric units
 *#***************************************************************************
 *#  Project Name: [West End Commercial, Collingwood]    Project Number: [183-269
 *#  Date          : April 9, 2015
 *#  Modeller      : [T. MacDougall]
 *#  Company       : CF Crozier & Associates Inc.
 *#  License #     : 3737016
 *#***************************************************************************
 *#   Interim Condition - NE Pond & Block 1 Ponding Only
 *#
 *#   Rainfall Data:  Storms are the SCS Volumes from MTO Design Chart 1.01(e)
 *#   District 5: Owen Sound, Basins West of and including Collingwood.
 *#-----------------|-------------------------------------------------------|
 START              TZERO=[0.0],   METOUT=[2],   NSTORM=[0],   NRUN=[0]
 *%                    [ ] <--storm filename, one per line for NSTORM time
 *#-----------------|-------------------------------------------------------|
 *#***************************************************************************
 *#                                   25mm Event
 *#***************************************************************************
 *#-----------------|-------------------------------------------------------|
 CHICAGO STORM      IUNITS=[2],  TD=[4](hrs), TPRAT=[0.333],  CSDT=[5](min),
                    ICASEcs=[1],
                     A=[568.700],   B=[6.662],  and C=[0.819],
 *#-----------------|-------------------------------------------------------|
 *#-----------------|---------- AREA WEST OF INTERSECTION (10HA) ----------------|
 *#-----------------|-------------------------------------------------------|
 CALIB NASHYD       ID=[1], NHYD=["WEST_PRE"], DT=[1]min, AREA=[11.1](ha),
                    DWF=[0](cms),  CN/C=[84],  IA=[8](mm),
                    N=[3], TP=[0.41]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
 *#-----------------|-------------------------------------------------------|
 *#-----------------|--------- AREA NORTH OF POND (&INC POND)------------------|
 *#-----------------|-------------------------------------------------------|
 CALIB STANDHYD     ID=[2], NHYD=["NORTH"], DT=[1](min), AREA=[1.01](ha),
                    XIMP=[0.62], TIMP=[0.78], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[84],
                    Pervious   surfaces: IAper=[8](mm), SLPP=[0.5](%),
                                         LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2](mm), SLPI=[0.5](%),
                                         LGI=[60](m), MNI=[0.013], SCI=[0](min),
                    RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
 *#-----------------|-------------------------------------------------------|
 *#-----------------|---------------- AREA SOUTH OF POND ----------------------|
 *#-----------------|-------------------------------------------------------|
 CALIB STANDHYD     ID=[3], NHYD=["SOUTH"], DT=[1](min), AREA=[0.57](ha),
                    XIMP=[0.72], TIMP=[0.9], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[84],
                    Pervious   surfaces: IAper=[8](mm), SLPP=[0.5](%),
                                         LGP=[10](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
 *#-----------------|-------------------------------------------------------|
 *#-----------------|----- INTERSECTION AREA (TO NE POND - PHASE 1) ------------|
 *#-----------------|-------------------------------------------------------|
 CALIB STANDHYD     ID=[4], NHYD=["INT_AREA"], DT=[1](min), AREA=[0.79](ha),
                    XIMP=[0.56], TIMP=[0.70], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[84],
                    Pervious   surfaces: IAper=[8](mm), SLPP=[0.5](%),
                                         LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2.0](mm), SLPI=[0.5](%),
                                         LGI=[110](m), MNI=[0.013], SCI=[0](min)
                    RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
 *#-----------------|-------------------------------------------------------|
 *#----------------------- TOTAL AREA CONTRIBUTING TO NE POND (PHASE 1) --------|
 *#-----------------|-------------------------------------------------------|
 ADD HYD            IDsum=[5], NHYD=["TO_POND"], IDs to add=[1+2+3+4]
 *#-----------------|-------------------------------------------------------|
 *#---------------------------- NE SWM POND (PHASE 1) --------------------------|
 *#-----------------|-------------------------------------------------------|
 ROUTE RESERVOIR    IDout=[6],     NHYD=["NE_Pond"],   IDin=[5],
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                   (cms) - (ha-m)
                                 [  0.0  ,   0.0  ]
                                 [ 0.051 ,  0.058 ]
                                 [ 0.066 ,  0.092 ]
                                 [ 0.078 ,  0.266 ]
                                 [ 0.093 ,  0.662 ]
                                 [ 0.107 ,  1.203 ]
                                 [ 0.115 ,  1.645 ]
                                 [ 0.125 ,  2.457 ]
                                 [ 0.136 ,  3.471 ]
                                 [  -1   ,   -1   ]   (max twenty pts)
                          IDovf=[9], NHYDovf=["OVF"]
 *#-----------------|-------------------------------------------------------|
 *#-------------------------------------- R4 -----------------------------------|
 *#-----------------|-------------------------------------------------------|
 DESIGN STANDHYD    ID=[2], NHYD=["R4"], DT=[1]min, AREA=[0.48](ha),
                    XIMP=[0.56], TIMP=[0.70], DWF=[0](cms), LOSS=[2], CN=[84],
                    SLOPE=[0.5](%), RAINFALL=[ ,  ,  ,  , ](mm/hr), END=-1
 *#-----------------|-------------------------------------------------------|
 ROUTE RESERVOIR    IDout=[4],     NHYD=["StR4"],   IDin=[2],
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                   (cms) - (ha-m)
                                 [  0.0  ,   0.0  ]
                                 [ 0.035,   0.020]
                                 [  -1   ,   -1   ]   (max twenty pts)
                          IDovf=[9], NHYDovf=["OVF"]
 *#-----------------|-------------------------------------------------------|
 *#------------------------------ DISHARGE TO HIGH STREET (PHASE 1) ------------|
 *#-----------------|-------------------------------------------------------|
 ADD HYD            IDsum=[7], NHYD=["P1_HIGH"], IDs to add=[4+6]
 *#-----------------|-------------------------------------------------------|
 *#***************************************************************************
 *#************************* 4 hour Chicago 5-year *****************************
 *#***************************************************************************
 *#-----------------|-------------------------------------------------------|
 CHICAGO STORM      IUNITS=[2],  TD=[4](hrs), TPRAT=[0.333],  CSDT=[5](min),
                    ICASEcs=[2],
                    Enter ordinates of IDF curve below, at least seven points
                        TIME (min)      Intensity(mm/hr)
                          [5]              [130]
                          [10]             [90]
                          [15]             [77]
                          [30]             [50]
                          [60]             [33]
                          [120]            [21]
                          [360]            [8.8]
                          [720]            [4.7]
                          [1440]           [2.6]
                            -1               -1
 *#-----------------|-------------------------------------------------------|
 *#-----------------|---------- AREA WEST OF INTERSECTION (10HA) ----------------|
 *#-----------------|-------------------------------------------------------|
 CALIB NASHYD       ID=[1], NHYD=["WEST_PRE"], DT=[1]min, AREA=[11.1](ha),
                    DWF=[0](cms),  CN/C=[84],  IA=[8](mm),
                    N=[3], TP=[0.41]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
 *#-----------------|-------------------------------------------------------|
 *#-----------------|--------- AREA NORTH OF POND (&INC POND)------------------|
 *#-----------------|-------------------------------------------------------|
 CALIB STANDHYD     ID=[2], NHYD=["NORTH"], DT=[1](min), AREA=[1.01](ha),
                    XIMP=[0.62], TIMP=[0.78], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[84],
                    Pervious   surfaces: IAper=[8](mm), SLPP=[0.5](%),
                                         LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2](mm), SLPI=[0.5](%),
                                         LGI=[60](m), MNI=[0.013], SCI=[0](min),
                    RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
 *#-----------------|-------------------------------------------------------|
 *#-----------------|---------------- AREA SOUTH OF POND ----------------------|
 *#-----------------|-------------------------------------------------------|
 CALIB STANDHYD     ID=[3], NHYD=["SOUTH"], DT=[1](min), AREA=[0.57](ha),
                    XIMP=[0.72], TIMP=[0.9], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[84],
                    Pervious   surfaces: IAper=[8](mm), SLPP=[0.5](%),
                                         LGP=[10](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
 *#-----------------|-------------------------------------------------------|
 *#-----------------|----- INTERSECTION AREA (TO NE POND - PHASE 1) ------------|
 *#-----------------|-------------------------------------------------------|
 CALIB STANDHYD     ID=[4], NHYD=["INT_AREA"], DT=[1](min), AREA=[0.79](ha),
                    XIMP=[0.56], TIMP=[0.70], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[84],
                    Pervious   surfaces: IAper=[8](mm), SLPP=[0.5](%),
                                         LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2.0](mm), SLPI=[0.5](%),
                                         LGI=[110](m), MNI=[0.013], SCI=[0](min)
                    RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
 *#-----------------|-------------------------------------------------------|
 *#----------------------- TOTAL AREA CONTRIBUTING TO NE POND (PHASE 1) --------|
 *#-----------------|-------------------------------------------------------|
 ADD HYD            IDsum=[5], NHYD=["TO_POND"], IDs to add=[1+2+3+4]
 *#-----------------|-------------------------------------------------------|
 *#---------------------------- NE SWM POND (PHASE 1) --------------------------|
 *#-----------------|-------------------------------------------------------|
 ROUTE RESERVOIR    IDout=[6],     NHYD=["NE_Pond"],   IDin=[5],
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                   (cms) - (ha-m)
                                 [  0.0  ,   0.0  ]
                                 [ 0.051 ,  0.058 ]
                                 [ 0.066 ,  0.092 ]
                                 [ 0.078 ,  0.266 ]
                                 [ 0.093 ,  0.662 ]
                                 [ 0.107 ,  1.203 ]
                                 [ 0.115 ,  1.645 ]
                                 [ 0.125 ,  2.457 ]
                                 [ 0.136 ,  3.471 ]
                                 [  -1   ,   -1   ]   (max twenty pts)
                          IDovf=[9], NHYDovf=["OVF"]
 *#-----------------|-------------------------------------------------------|
 *#-------------------------------------- R4 -----------------------------------|
 *#-----------------|-------------------------------------------------------|
 DESIGN STANDHYD    ID=[2], NHYD=["R4"], DT=[1]min, AREA=[0.48](ha),
                    XIMP=[0.56], TIMP=[0.70], DWF=[0](cms), LOSS=[2], CN=[84],
                    SLOPE=[0.5](%), RAINFALL=[ ,  ,  ,  , ](mm/hr), END=-1
 *#-----------------|-------------------------------------------------------|
 ROUTE RESERVOIR    IDout=[4],     NHYD=["StR4"],   IDin=[2],
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                   (cms) - (ha-m)
                                 [  0.0  ,   0.0  ]
                                 [ 0.035,   0.020]
                                 [  -1   ,   -1   ]   (max twenty pts)
                          IDovf=[9], NHYDovf=["OVF"]
 *#-----------------|-------------------------------------------------------|
 *#------------------------------ DISHARGE TO HIGH STREET (PHASE 1) ------------|
 *#-----------------|-------------------------------------------------------|
 ADD HYD            IDsum=[7], NHYD=["P1_HIGH"], IDs to add=[4+6]
 *#-----------------|-------------------------------------------------------|
 *#***************************************************************************
 *#************************* 4 hour Chicago 25-year ****************************
 *#***************************************************************************
 *#-----------------|-------------------------------------------------------|
 CHICAGO STORM      IUNITS=[2],  TD=[4](hrs), TPRAT=[0.333],  CSDT=[5](min),
                    ICASEcs=[2],
                    Enter ordinates of IDF curve below, at least seven points
                        TIME (min)      Intensity(mm/hr)
                          [5]              [180]
                          [10]             [120]
                          [15]             [105]
                          [30]             [67]
                          [60]             [46]
                          [120]            [28]
                          [360]            [13]
                          [720]            [6.5]
                          [1440]           [3.6]
                            -1               -1
 *#-----------------|-------------------------------------------------------|
 *#-----------------|---------- AREA WEST OF INTERSECTION (10HA) ----------------|
 *#-----------------|-------------------------------------------------------|
 CALIB NASHYD       ID=[1], NHYD=["WEST_PRE"], DT=[1]min, AREA=[11.1](ha),
                    DWF=[0](cms),  CN/C=[84],  IA=[8](mm),
                    N=[3], TP=[0.41]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
 *#-----------------|-------------------------------------------------------|
 *#-----------------|--------- AREA NORTH OF POND (&INC POND)------------------|
 *#-----------------|-------------------------------------------------------|
 CALIB STANDHYD     ID=[2], NHYD=["NORTH"], DT=[1](min), AREA=[1.01](ha),
                    XIMP=[0.62], TIMP=[0.78], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[84],
                    Pervious   surfaces: IAper=[8](mm), SLPP=[0.5](%),
                                         LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2](mm), SLPI=[0.5](%),
                                         LGI=[60](m), MNI=[0.013], SCI=[0](min),
                    RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
 *#-----------------|-------------------------------------------------------|
 *#-----------------|---------------- AREA SOUTH OF POND ----------------------|
 *#-----------------|-------------------------------------------------------|
 CALIB STANDHYD     ID=[3], NHYD=["SOUTH"], DT=[1](min), AREA=[0.57](ha),
                    XIMP=[0.72], TIMP=[0.9], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[84],
                    Pervious   surfaces: IAper=[8](mm), SLPP=[0.5](%),
                                         LGP=[10](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
 *#-----------------|-------------------------------------------------------|
 *#-----------------|----- INTERSECTION AREA (TO NE POND - PHASE 1) ------------|
 *#-----------------|-------------------------------------------------------|
 CALIB STANDHYD     ID=[4], NHYD=["INT_AREA"], DT=[1](min), AREA=[0.79](ha),
                    XIMP=[0.56], TIMP=[0.70], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[84],
                    Pervious   surfaces: IAper=[8](mm), SLPP=[0.5](%),
                                         LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2.0](mm), SLPI=[0.5](%),
                                         LGI=[110](m), MNI=[0.013], SCI=[0](min)
                    RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
 *#-----------------|-------------------------------------------------------|
 *#----------------------- TOTAL AREA CONTRIBUTING TO NE POND (PHASE 1) --------|
 *#-----------------|-------------------------------------------------------|
 ADD HYD            IDsum=[5], NHYD=["TO_POND"], IDs to add=[1+2+3+4]
 *#-----------------|-------------------------------------------------------|
 *#---------------------------- NE SWM POND (PHASE 1) --------------------------|
 *#-----------------|-------------------------------------------------------|
```

```
ROUTE RESERVOIR      IDout=[6],   NHYD=["NE_Pond"],  IDin=[5],
                     RDT=[1](min),
                           TABLE of ( OUTFLOW-STORAGE ) values
                                       (cms) - (ha-m)
                                     [   0.0 ,   0.0   ]
                                     [ 0.051 ,  0.058 ]
                                     [ 0.066 ,  0.092 ]
                                     [ 0.078 ,  0.266 ]
                                     [ 0.093 ,  0.662 ]
                                     [ 0.107 ,  1.203 ]
                                     [ 0.115 ,  1.645 ]
                                     [ 0.125 ,  2.457 ]
                                     [ 0.136 ,  3.471 ]
                                     [   -1  ,   -1    ]  (max twenty pts)
                           IDovf=[9], NHYDovf=["OVF"]
*#----------------|------------------------------------------------------|
*#---------------------------------- R4 ---------------------------------|
*#----------------|------------------------------------------------------|
DESIGN STANDHYD      ID=[2], NHYD=["R4"], DT=[1]min, AREA=[0.48](ha),
                     XIMP=[0.56], TIMP=[0.70], DWF=[0](cms), LOSS=[2], CN=[84],
                     SLOPE=[0.5](%), RAINFALL=[ , , , , ](mm/hr), END=-1
*#----------------|------------------------------------------------------|
ROUTE RESERVOIR      IDout=[4],   NHYD=["StR4"],  IDin=[2],
                     RDT=[1](min),
                           TABLE of ( OUTFLOW-STORAGE ) values
                                       (cms) - (ha-m)
                                     [   0.0 ,   0.0  ]
                                     [  0.035,  0.020]
                                     [   -1  ,   -1   ]  (max twenty pts)
                           IDovf=[9], NHYDovf=["OVF"]
*#----------------|------------------------------------------------------|
*#------------------------- DISHARGE TO HIGH STREET (PHASE 1) ------------|
*#----------------|------------------------------------------------------|
ADD HYD              IDsum=[7], NHYD=["P1_HIGH"], IDs to add=[4+6]
*#----------------|------------------------------------------------------|
*#************************************************************************
*#---------------------------- 4 hour Chicago 100-year -------------------|
*#************************************************************************
*#----------------|------------------------------------------------------|
CHICAGO STORM        IUNITS=[2],  TD=[4](hrs), TPRAT=[0.333],  CSDT=[5](min),
                     ICASEcs=[2],
                     Enter ordinates of IDF curve below, at least seven points
                          TIME (min)     Intensity(mm/hr)
                             [5]           [215]
                             [10]          [145]
                             [15]          [125]
                             [30]          [82]
                             [60]          [56]
                             [120]         [34]
                             [360]         [16]
                             [720]         [8.0]
                             [1440]        [4.5]
                                -1               -1
*#----------------|------------------------------------------------------|
*#----------------|--------- AREA WEST OF INTERSECTION (10HA) -----------|
*#----------------|------------------------------------------------------|
CALIB NASHYD         ID=[1], NHYD=["WEST_PRE"], DT=[1]min, AREA=[11.1](ha),
                     DWF=[0](cms),  CN/C=[84], IA=[8](mm),
                     N=[3], TP=[0.41]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#----------------|------------------------------------------------------|
*#----------------|--------- AREA NORTH OF POND (&INC POND)--------------|
*#----------------|------------------------------------------------------|
CALIB STANDHYD       ID=[2], NHYD=["NORTH"], DT=[1](min), AREA=[1.01](ha),
                     XIMP=[0.62], TIMP=[0.78], DWF=[0](cms), LOSS=[2],
                     SCS curve number CN=[84],
                     Pervious   surfaces: IAper=[8](mm), SLPP=[0.5](%),
                                          LGP=[40](m), MNP=[0.25], SCP=[0](min),
                     Impervious surfaces: IAimp=[2](mm), SLPI=[0.5](%),
                                          LGI=[60](m), MNI=[0.013], SCI=[0](min),
                     RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#----------------|------------------------------------------------------|
*#----------------|---------------- AREA SOUTH OF POND ------------------|
*#----------------|------------------------------------------------------|
CALIB STANDHYD       ID=[3], NHYD=["SOUTH"], DT=[1](min), AREA=[0.57](ha),
                     XIMP=[0.72], TIMP=[0.9], DWF=[0](cms), LOSS=[2],
                     SCS curve number CN=[84],
                     Pervious   surfaces: IAper=[8](mm), SLPP=[0.5](%),
                                          LGP=[10](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
*#----------------|------------------------------------------------------|
*#----------------|----- INTERSECTION AREA (TO NE POND - PHASE 1) -------|
*#----------------|------------------------------------------------------|
CALIB STANDHYD       ID=[4], NHYD=["INT_AREA"], DT=[1](min), AREA=[0.79](ha),
                     XIMP=[0.56], TIMP=[0.70], DWF=[0](cms), LOSS=[2],
                     SCS curve number CN=[84],
                     Pervious   surfaces: IAper=[8](mm), SLPP=[0.5](%),
                                          LGP=[40](m), MNP=[0.25], SCP=[0](min),
                     Impervious surfaces: IAimp=[2.0](mm), SLPI=[0.5](%),
                                          LGI=[110](m), MNI=[0.013], SCI=[0](min)
                     RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#----------------|------------------------------------------------------|
*#----------------|----- TOTAL AREA CONTRIBUTING TO NE POND (PHASE 1) ---|
*#----------------|------------------------------------------------------|
ADD HYD              IDsum=[5], NHYD=["TO_POND"], IDs to add=[1+2+3+4]
*#----------------|------------------------------------------------------|
*#------------------------------- NE SWM POND (PHASE 1) -----------------|
*#----------------|------------------------------------------------------|
ROUTE RESERVOIR      IDout=[6],   NHYD=["NE_Pond"],  IDin=[5],
                     RDT=[1](min),
                           TABLE of ( OUTFLOW-STORAGE ) values
                                       (cms) - (ha-m)
                                     [   0.0 ,   0.0   ]
                                     [ 0.051 ,  0.058 ]
                                     [ 0.066 ,  0.092 ]
                                     [ 0.078 ,  0.266 ]
                                     [ 0.093 ,  0.662 ]
                                     [ 0.107 ,  1.203 ]
                                     [ 0.115 ,  1.645 ]
                                     [ 0.125 ,  2.457 ]
                                     [ 0.136 ,  3.471 ]
                                     [   -1  ,   -1    ]  (max twenty pts)
                           IDovf=[9], NHYDovf=["OVF"]
*#----------------|------------------------------------------------------|
*#---------------------------------- R4 ---------------------------------|
*#----------------|------------------------------------------------------|
DESIGN STANDHYD      ID=[2], NHYD=["R4"], DT=[1]min, AREA=[0.48](ha),
                     XIMP=[0.56], TIMP=[0.70], DWF=[0](cms), LOSS=[2], CN=[84],
                     SLOPE=[0.5](%), RAINFALL=[ , , , , ](mm/hr), END=-1
*#----------------|------------------------------------------------------|
ROUTE RESERVOIR      IDout=[4],   NHYD=["StR4"],  IDin=[2],
                     RDT=[1](min),
                           TABLE of ( OUTFLOW-STORAGE ) values
                                       (cms) - (ha-m)
                                     [   0.0 ,   0.0  ]
                                     [  0.035,  0.020]
                                     [   -1  ,   -1   ]  (max twenty pts)
                           IDovf=[9], NHYDovf=["OVF"]
*#----------------|------------------------------------------------------|
*#------------------------- DISHARGE TO HIGH STREET (PHASE 1) ------------|
*#----------------|------------------------------------------------------|
ADD HYD              IDsum=[7], NHYD=["P1_HIGH"], IDs to add=[4+6]
*#----------------|------------------------------------------------------|
*#************************************************************************
*#------------------------------- REGIONAL EVENT ------------------------|
*#************************************************************************
*#----------------|------------------------------------------------------|
READ STORM           STORM_FILENAME=["tim.STM"]
*#----------------|------------------------------------------------------|
*#----------------|--------- AREA WEST OF INTERSECTION (10HA) -----------|
*#----------------|------------------------------------------------------|
CALIB NASHYD         ID=[1], NHYD=["WEST_PRE"], DT=[1]min, AREA=[11.1](ha),
                     DWF=[0](cms),  CN/C=[84], IA=[8](mm),
                     N=[3], TP=[0.41]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#----------------|------------------------------------------------------|
*#----------------|--------- AREA NORTH OF POND (&INC POND)--------------|
*#----------------|------------------------------------------------------|
CALIB STANDHYD       ID=[2], NHYD=["NORTH"], DT=[1](min), AREA=[1.01](ha),
                     XIMP=[0.62], TIMP=[0.78], DWF=[0](cms), LOSS=[2],
                     SCS curve number CN=[84],
                     Pervious   surfaces: IAper=[8](mm), SLPP=[0.5](%),
                                          LGP=[40](m), MNP=[0.25], SCP=[0](min),
                     Impervious surfaces: IAimp=[2](mm), SLPI=[0.5](%),
                                          LGI=[60](m), MNI=[0.013], SCI=[0](min),
                     RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#----------------|------------------------------------------------------|
*#----------------|---------------- AREA SOUTH OF POND ------------------|
*#----------------|------------------------------------------------------|
CALIB STANDHYD       ID=[3], NHYD=["SOUTH"], DT=[1](min), AREA=[0.57](ha),
                     XIMP=[0.72], TIMP=[0.9], DWF=[0](cms), LOSS=[2],
                     SCS curve number CN=[84],
                     Pervious   surfaces: IAper=[8](mm), SLPP=[0.5](%),
                                          LGP=[10](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
*#----------------|------------------------------------------------------|
*#----------------|----- INTERSECTION AREA (TO NE POND - PHASE 1) -------|
*#----------------|------------------------------------------------------|
CALIB STANDHYD       ID=[4], NHYD=["INT_AREA"], DT=[1](min), AREA=[0.79](ha),
                     XIMP=[0.56], TIMP=[0.70], DWF=[0](cms), LOSS=[2],
                     SCS curve number CN=[84],
                     Pervious   surfaces: IAper=[8](mm), SLPP=[0.5](%),
                                          LGP=[40](m), MNP=[0.25], SCP=[0](min),
                     Impervious surfaces: IAimp=[2.0](mm), SLPI=[0.5](%),
                                          LGI=[110](m), MNI=[0.013], SCI=[0](min)
                     RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#----------------|------------------------------------------------------|
*#----------------|----- TOTAL AREA CONTRIBUTING TO NE POND (PHASE 1) ---|
*#----------------|------------------------------------------------------|
ADD HYD              IDsum=[5], NHYD=["TO_POND"], IDs to add=[1+2+3+4]
*#----------------|------------------------------------------------------|
*#------------------------------- NE SWM POND (PHASE 1) -----------------|
*#----------------|------------------------------------------------------|
ROUTE RESERVOIR      IDout=[6],   NHYD=["NE_Pond"],  IDin=[5],
                     RDT=[1](min),
                           TABLE of ( OUTFLOW-STORAGE ) values
                                       (cms) - (ha-m)
                                     [   0.0 ,   0.0   ]
                                     [ 0.051 ,  0.058 ]
                                     [ 0.066 ,  0.092 ]
                                     [ 0.078 ,  0.266 ]
                                     [ 0.093 ,  0.662 ]
                                     [ 0.107 ,  1.203 ]
                                     [ 0.115 ,  1.645 ]
                                     [ 0.125 ,  2.457 ]
                                     [ 0.136 ,  3.471 ]
                                     [   -1  ,   -1    ]  (max twenty pts)
                           IDovf=[9], NHYDovf=["OVF"]
*#----------------|------------------------------------------------------|
*#---------------------------------- R4 ---------------------------------|
*#----------------|------------------------------------------------------|
DESIGN STANDHYD      ID=[2], NHYD=["R4"], DT=[1]min, AREA=[0.48](ha),
                     XIMP=[0.56], TIMP=[0.70], DWF=[0](cms), LOSS=[2], CN=[84],
                     SLOPE=[0.5](%), RAINFALL=[ , , , , ](mm/hr), END=-1
*#----------------|------------------------------------------------------|
ROUTE RESERVOIR      IDout=[4],   NHYD=["StR4"],  IDin=[2],
                     RDT=[1](min),
                           TABLE of ( OUTFLOW-STORAGE ) values
                                       (cms) - (ha-m)
                                     [   0.0 ,   0.0  ]
                                     [  0.035,  0.020]
                                     [   -1  ,   -1   ]  (max twenty pts)
                           IDovf=[9], NHYDovf=["OVF"]
*#----------------|------------------------------------------------------|
*#------------------------- DISHARGE TO HIGH STREET (PHASE 1) ------------|
*#----------------|------------------------------------------------------|
ADD HYD              IDsum=[7], NHYD=["P1_HIGH"], IDs to add=[4+6]
*#----------------|------------------------------------------------------|
FINISH
```

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

   SSSSS  W   W  M   M  H   H  Y   Y  M   M   OOO        999   999    =========
   S      W W W  MM MM  H   H   Y Y   MM MM  O   O      9   9 9   9
   SSSSS  W W W  M M M  HHHHH    Y    M M M  O   O  ##  9   9 9   9   Ver  4.05
       S   W W   M   M  H   H    Y    M   M  O   O       9999  9999   Sept 2011
   SSSSS   W W   M   M  H   H    Y    M   M   OOO           9     9   =========
                                                        9   9 9   9   # 3737016
       StormWater Management HYdrologic Model            999   999    =========

 *********************************************************************************
 ***************************** SWMHYMO Ver/4.05 **********************************
 *********  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   :     10        *********
 *********              Max. number of rainfall points: 105408         *********
 *********              Max. number of flow points     : 105408        *********
 *********************************************************************************

 ***** DESCRIPTION SUMMARY TABLE HEADERS (units depend on METOUT in START) *****
 *****-------------------------------------------------------------------------*****
 *****     ID:  Hydrograph IDentification numbers, (1-10).                  *****
 *****   NHYD:  Hydrograph reference numbers, (6 digits or characters).     *****
 *****   AREA:  Drainage area associated with hydrograph, (ac.) or (ha.).   *****
 ***** QPEAK:  Peak flow of simulated hydrograph, (ft^3/s) or (m^3/s).      *****
 ***** TpeakDate_hh:mm is the date and time of the peak flow.               *****
 *****   R.V.:  Runoff Volume of simulated hydrograph, (in) or (mm).        *****
 *****   R.C.:  Runoff Coefficient of simulated hydrograph, (ratio).        *****
 *****      *:  see WARNING or NOTE message printed at end of run.          *****
 *****     **:  see  ERROR  message printed at end of run.                  *****
 *********************************************************************************
 *********************************************************************************

 :::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::

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

 **********************     S U M M A R Y   O U T P U T     *********************
 *********************************************************************************
 *          DATE: 2015-04-09     TIME: 09:27:33     RUN COUNTER: 000140            *
 *********************************************************************************
 * Input    filename: C:\SWMHYMO\THIRDH-1\PHASE1-1\PoCHI4p1.DAT                   *
 * Output   filename: C:\SWMHYMO\THIRDH-1\PHASE1-1\PoCHI4p1.out                   *
 * Summary filename: C:\SWMHYMO\THIRDH-1\PHASE1-1\PoCHI4p1.sum                    *
 * User comments:                                                                 *
 * 1:_____________________________________________________________________________*
 * 2:_____________________________________________________________________________*
 * 3:_____________________________________________________________________________*
 *********************************************************************************


#*********************************************************************************
#  Project Name: [West End Commercial, Collingwood]    Project Number: [183-269
#  Date          : April 9, 2015
#  Modeller      : [T. MacDougall]
#  Company       : CF Crozier & Associates Inc.
#  License #     :  3737016
#*********************************************************************************
#   Interim Condition - NE Pond & Block 1 Ponding Only
#
#   Rainfall Data:  Storms are the SCS Volumes from MTO Design Chart 1.01(e)
#   District 5: Owen Sound, Basins West of and including Collingwood.
#-----------------|-------------------------------------------------------------|
 RUN:COMMAND#
 001:0001---------------------------------------------------------------------
     START
       [TZERO =      .00 hrs on         0]
       [METOUT=    2     (1=imperial, 2=metric output)]
       [NSTORM=    0 ]
       [NRUN  =    1 ]
#-----------------|-------------------------------------------------------------|
#*********************************************************************************
#                                    25mm Event
#*********************************************************************************
#--------|---------|-----------------------------------------------------------|
 001:0002---------------------------------------------------------------------
     CHICAGO STORM
       [SDT= 5.00:SDUR=   4.00:PTOT=  24.99]
       [A/B/C= 568.700/   6.462/    .819]
#-----------------|-------------------------------------------------------------|
#-----------------|---------- AREA WEST OF INTERSECTION (10HA) -----------------|
#-----------------|-------------------------------------------------------------|
 001:0003---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD        01:WEST_PRE      11.10     .084 No_date     2:01     4.42
       [CN= 84.0: N= 3.00]
       [Tp=   .41:DT= 1.00]
#-----------------|-------------------------------------------------------------|
#-----------------|---------- AREA NORTH OF POND (&INC POND)--------------------|
#-----------------|-------------------------------------------------------------|
 001:0004---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD      02:NORTH          1.01     .112 No_date     1:21    17.51
       [XIMP= .62:TIMP= .78]
       [LOSS= 2 :CN= 84.0]
       [Pervious     area: IAper= 8.00:SLPP= .50:LGP=  40.:MNP=.250:SCP=    .0]
       [Impervious   area: IAimp= 2.00:SLPI= .50:LGI=  60.:MNI=.013:SCI=    .0]
#-----------------|-------------------------------------------------------------|
#-----------------|------------------ AREA SOUTH OF POND -----------------------|
#-----------------|-------------------------------------------------------------|
 001:0005---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD      03:SOUTH           .57     .070 No_date     1:22    20.03
       [XIMP= .72:TIMP= .90]
       [LOSS= 2 :CN= 84.0]
       [Pervious     area: IAper= 8.00:SLPP= .50:LGP=  10.:MNP=.250:SCP=    .0]
       [Impervious   area: IAimp= 2.00:SLPI= .50:LGI= 100.:MNI=.013:SCI=    .0]
#-----------------|-------------------------------------------------------------|
#-----------------|----- INTERSECTION AREA (TO NE POND - PHASE 1) --------------|
#-----------------|-------------------------------------------------------------|
 001:0006---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD      04:INT_AREA        .79     .070 No_date     1:22    16.07
       [XIMP= .56:TIMP= .70]
       [LOSS= 2 :CN= 84.0]
       [Pervious     area: IAper= 8.00:SLPP= .50:LGP=  40.:MNP=.250:SCP=    .0]
       [Impervious   area: IAimp= 2.00:SLPI= .50:LGI= 110.:MNI=.013:SCI=    .0]
#-----------------|-------------------------------------------------------------|
#---------------------------- TOTAL AREA CONTRIBUTING TO NE POND (PHASE 1) ------|
#-----------------|-------------------------------------------------------------|
 001:0007---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD             01:WEST_PRE      11.10     .084 No_date     2:01     4.42
                     +   02:NORTH          1.01     .112 No_date     1:21    17.51
                     +   03:SOUTH           .57     .070 No_date     1:22    20.03
                     +   04:INT_AREA        .79     .070 No_date     1:22    16.07
       [DT= 1.00]  SUM=  05:TO_POND       13.47     .252 No_date     1:21     6.74
#-----------------|-------------------------------------------------------------|
#---------------------------- NE SWM POND (PHASE 1) ----------------------------|
#-----------------|-------------------------------------------------------------|
 001:0008---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ROUTE RESERVOIR ->  05:TO_POND       13.47     .252 No_date     1:21     6.74
       [RDT= 1.00] out<- 06:NE_Pond       13.47     .046 No_date     3:12     6.74
               overflow <= 09:OVF           .00     .000 No_date     0:00      .00
      {MxStoUsed=.5190E-01, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs
#-----------------|-------------------------------------------------------------|
#---------------------------------------- R4 -----------------------------------|
#-----------------|-------------------------------------------------------------|
 001:0009---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     DESIGN STANDHYD     02:R4              .48     .051 No_date     1:20    17.98
       [XIMP= .56:TIMP= .70]
       [SLP=  .50:DT= 1.00]
       [LOSS= 2 :CN= 84.0]
#-----------------|-------------------------------------------------------------|
 001:0010---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ROUTE RESERVOIR ->  02:R4              .48     .051 No_date     1:20    17.98
       [RDT= 1.00] out<- 04:StR4            .48     .008 No_date     2:00    17.98
               overflow <= 09:OVF           .00     .000 No_date     0:00      .00
      {MxStoUsed=.4324E-02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs
#-----------------|-------------------------------------------------------------|
#---------------------------- DISHARGE TO HIGH STREET (PHASE 1) ----------------|
#-----------------|-------------------------------------------------------------|
 001:0011---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD             04:StR4            .48     .008 No_date     2:00    17.98
                     +   06:NE_Pond       13.47     .046 No_date     3:12     6.74
       [DT= 1.00]  SUM=  07:P1_HIGH       13.95     .051 No_date     3:01     7.13
#-----------------|-------------------------------------------------------------|
#*********************************************************************************
#************************* 4 hour Chicago 5-year ********************************
#*********************************************************************************
#-----------------|-------------------------------------------------------------|
 001:0012---------------------------------------------------------------------
     CHICAGO STORM
       [SDT= 5.00:SDUR=   4.00:PTOT=  46.10]
       {A/B/C=1081.402/   9.194/    .823: R=.9994}
#-----------------|-------------------------------------------------------------|
#-----------------|---------- AREA WEST OF INTERSECTION (10HA) -----------------|
#-----------------|-------------------------------------------------------------|
 001:0013---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD        01:WEST_PRE      11.10     .361 No_date     1:56    16.78
       [CN= 84.0: N= 3.00]
       [Tp=   .41:DT= 1.00]
#-----------------|-------------------------------------------------------------|
#-----------------|---------- AREA NORTH OF POND (&INC POND)--------------------|
#-----------------|-------------------------------------------------------------|
 001:0014---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD      02:NORTH          1.01     .201 No_date     1:20    36.74
       [XIMP= .62:TIMP= .78]
       [LOSS= 2 :CN= 84.0]
       [Pervious     area: IAper= 8.00:SLPP= .50:LGP=  40.:MNP=.250:SCP=    .0]
       [Impervious   area: IAimp= 2.00:SLPI= .50:LGI=  60.:MNI=.013:SCI=    .0]
#-----------------|-------------------------------------------------------------|
#-----------------|------------------ AREA SOUTH OF POND -----------------------|
#-----------------|-------------------------------------------------------------|
 001:0015---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD      03:SOUTH           .57     .134 No_date     1:21    40.40
       [XIMP= .72:TIMP= .90]
       [LOSS= 2 :CN= 84.0]
       [Pervious     area: IAper= 8.00:SLPP= .50:LGP=  10.:MNP=.250:SCP=    .0]
       [Impervious   area: IAimp= 2.00:SLPI= .50:LGI= 100.:MNI=.013:SCI=    .0]
#-----------------|-------------------------------------------------------------|
#-----------------|----- INTERSECTION AREA (TO NE POND - PHASE 1) --------------|
#-----------------|-------------------------------------------------------------|
 001:0016---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD      04:INT_AREA        .79     .127 No_date     1:21    34.56
       [XIMP= .56:TIMP= .70]
       [LOSS= 2 :CN= 84.0]
       [Pervious     area: IAper= 8.00:SLPP= .50:LGP=  40.:MNP=.250:SCP=    .0]
       [Impervious   area: IAimp= 2.00:SLPI= .50:LGI= 110.:MNI=.013:SCI=    .0]
#-----------------|-------------------------------------------------------------|
#---------------------------- TOTAL AREA CONTRIBUTING TO NE POND (PHASE 1) ------|
#-----------------|-------------------------------------------------------------|
 001:0017---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD             01:WEST_PRE      11.10     .361 No_date     1:56    16.78
                     +   02:NORTH          1.01     .201 No_date     1:20    36.74
                     +   03:SOUTH           .57     .134 No_date     1:21    40.40
                     +   04:INT_AREA        .79     .127 No_date     1:21    34.56
       [DT= 1.00]  SUM=  05:TO_POND       13.47     .474 No_date     1:21    20.32
#-----------------|-------------------------------------------------------------|
#---------------------------- NE SWM POND (PHASE 1) ----------------------------|
#-----------------|-------------------------------------------------------------|
 001:0018---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ROUTE RESERVOIR ->  05:TO_POND       13.47     .474 No_date     1:21    20.32
       [RDT= 1.00] out<- 06:NE_Pond       13.47     .073 No_date     4:03    20.32
               overflow <= 09:OVF           .00     .000 No_date     0:00      .00
      {MxStoUsed=.1957E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs
#-----------------|-------------------------------------------------------------|
#---------------------------------------- R4 -----------------------------------|
#-----------------|-------------------------------------------------------------|
 001:0019---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     DESIGN STANDHYD     02:R4              .48     .088 No_date     1:20    36.82
       [XIMP= .56:TIMP= .70]
       [SLP=  .50:DT= 1.00]
       [LOSS= 2 :CN= 84.0]
#-----------------|-------------------------------------------------------------|
 001:0020---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ROUTE RESERVOIR ->  02:R4              .48     .088 No_date     1:20    36.82
       [RDT= 1.00] out<- 04:StR4            .48     .016 No_date     2:00    36.82
               overflow <= 09:OVF           .00     .000 No_date     0:00      .00
      {MxStoUsed=.9125E-02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs
#-----------------|-------------------------------------------------------------|
#---------------------------- DISHARGE TO HIGH STREET (PHASE 1) ----------------|
#-----------------|-------------------------------------------------------------|
 001:0021---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD             04:StR4            .48     .016 No_date     2:00    36.82
                     +   06:NE_Pond       13.47     .073 No_date     4:03    20.32
       [DT= 1.00]  SUM=  07:P1_HIGH       13.95     .085 No_date     2:33    20.89
#-----------------|-------------------------------------------------------------|
#*********************************************************************************
#************************* 4 hour Chicago 25-year *******************************
#*********************************************************************************
#-----------------|-------------------------------------------------------------|
 001:0022---------------------------------------------------------------------
     CHICAGO STORM
       [SDT= 5.00:SDUR=   4.00:PTOT=  63.85]
       {A/B/C=1416.634/   9.025/    .813: R=.9988}
#-----------------|-------------------------------------------------------------|
#-----------------|---------- AREA WEST OF INTERSECTION (10HA) -----------------|
#-----------------|-------------------------------------------------------------|
 001:0023---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD        01:WEST_PRE      11.10     .667 No_date     1:54    29.92
       [CN= 84.0: N= 3.00]
       [Tp=   .41:DT= 1.00]
#-----------------|-------------------------------------------------------------|
#-----------------|---------- AREA NORTH OF POND (&INC POND)--------------------|
#-----------------|-------------------------------------------------------------|
 001:0024---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD      02:NORTH          1.01     .288 No_date     1:20    53.62
       [XIMP= .62:TIMP= .78]
       [LOSS= 2 :CN= 84.0]
```

```
       [Pervious    area: IAper= 8.00:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 2.00:SLPI= .50:LGI=  60.:MNI=.013:SCI=   .0]
#-----------------|------------------------------------------------------|
#-----------------|---------------- AREA SOUTH OF POND ------------------|
#-----------------|------------------------------------------------------|
 001:0025--------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD     03:SOUTH          .57     .196 No_date     1:21   57.84
       [XIMP=.72:TIMP=.90]
       [LOSS= 2 :CN= 84.0]
       [Pervious    area: IAper= 8.00:SLPP= .50:LGP=  10.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 2.00:SLPI= .50:LGI= 100.:MNI=.013:SCI=   .0]
#-----------------|------------------------------------------------------|
#-----------------|----- INTERSECTION AREA (TO NE POND - PHASE 1) ------|
#-----------------|------------------------------------------------------|
 001:0026--------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD     04:INT_AREA       .79     .186 No_date     1:21   51.05
       [XIMP=.56:TIMP=.70]
       [LOSS= 2 :CN= 84.0]
       [Pervious    area: IAper= 8.00:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 2.00:SLPI= .50:LGI= 110.:MNI=.013:SCI=   .0]
#-----------------|------------------------------------------------------|
#---------------------- TOTAL AREA CONTRIBUTING TO NE POND (PHASE 1) ----|
#-----------------|------------------------------------------------------|
 001:0027--------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            01:WEST_PRE     11.10     .667 No_date     1:54   29.92
                      + 02:NORTH         1.01     .288 No_date     1:20   53.62
                      + 03:SOUTH          .57     .196 No_date     1:21   57.84
                      + 04:INT_AREA       .79     .186 No_date     1:21   51.05
       [DT= 1.00]  SUM= 05:TO_POND      13.47     .802 No_date     1:50   34.12
#-----------------|------------------------------------------------------|
#---------------------------- NE SWM POND (PHASE 1) ---------------------|
#-----------------|------------------------------------------------------|
 001:0028--------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ROUTE RESERVOIR -> 05:TO_POND      13.47     .802 No_date     1:50   34.12
       [RDT= 1.00] out<- 06:NE_Pond     13.47     .082 No_date     4:17   34.12
             overflow <= 09:OVF           .00     .000 No_date     0:00     .00
     {MxStoUsed=.3661E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs
#-----------------|------------------------------------------------------|
#--------------------------------- R4 ----------------------------------|
#-----------------|------------------------------------------------------|
 001:0029--------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     DESIGN STANDHYD    02:R4             .48     .127 No_date     1:20   53.43
       [XIMP=.56:TIMP=.70]
       [SLP= .50:DT= 1.00]
       [LOSS= 2 :CN= 84.0]
#-----------------|------------------------------------------------------|
 001:0030--------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ROUTE RESERVOIR -> 02:R4             .48     .127 No_date     1:20   53.43
       [RDT= 1.00] out<- 04:StR4          .48     .023 No_date     1:58   53.43
             overflow <= 09:OVF           .00     .000 No_date     0:00     .00
     {MxStoUsed=.1341E-01, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs
#-----------------|------------------------------------------------------|
#------------------------- DISHARGE TO HIGH STREET (PHASE 1) ------------|
#-----------------|------------------------------------------------------|
 001:0031--------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            04:StR4           .48     .023 No_date     1:58   53.43
                      + 06:NE_Pond      13.47     .082 No_date     4:17   34.12
       [DT= 1.00]  SUM= 07:P1_HIGH      13.95     .100 No_date     2:23   34.78
#-----------------|------------------------------------------------------|
#************************************************************************
#--------------------------- 4 hour Chicago 100-year -------------------|
#************************************************************************
#-----------------|------------------------------------------------------|
 001:0032-------------------------------------------------------------------
     CHICAGO STORM
       [SDT= 5.00:SDUR=   4.00:PTOT=  78.22]
       [A/B/C=1660.507/   9.012/    .805: R=.9989]
#-----------------|------------------------------------------------------|
#-----------------|--------- AREA WEST OF INTERSECTION (10HA) ----------|
#-----------------|------------------------------------------------------|
 001:0033--------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       01:WEST_PRE     11.10     .937 No_date     1:53   41.57
       [CN= 84.0: N= 3.00]
       [Tp=  .41:DT= 1.00]
#-----------------|------------------------------------------------------|
#-----------------|--------- AREA NORTH OF POND (&INC POND)-------------|
#-----------------|------------------------------------------------------|
 001:0034--------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD     02:NORTH         1.01     .358 No_date     1:20   67.51
       [XIMP=.62:TIMP=.78]
       [LOSS= 2 :CN= 84.0]
       [Pervious    area: IAper= 8.00:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 2.00:SLPI= .50:LGI=  60.:MNI=.013:SCI=   .0]
#-----------------|------------------------------------------------------|
#-----------------|---------------- AREA SOUTH OF POND ------------------|
#-----------------|------------------------------------------------------|
 001:0035--------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD     03:SOUTH          .57     .244 No_date     1:20   72.04
       [XIMP=.72:TIMP=.90]
       [LOSS= 2 :CN= 84.0]
       [Pervious    area: IAper= 8.00:SLPP= .50:LGP=  10.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 2.00:SLPI= .50:LGI= 100.:MNI=.013:SCI=   .0]
#-----------------|------------------------------------------------------|
#-----------------|----- INTERSECTION AREA (TO NE POND - PHASE 1) ------|
#-----------------|------------------------------------------------------|
 001:0036--------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD     04:INT_AREA       .79     .233 No_date     1:21   64.71
       [XIMP=.56:TIMP=.70]
       [LOSS= 2 :CN= 84.0]
       [Pervious    area: IAper= 8.00:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 2.00:SLPI= .50:LGI= 110.:MNI=.013:SCI=   .0]
#-----------------|------------------------------------------------------|
#---------------------- TOTAL AREA CONTRIBUTING TO NE POND (PHASE 1) ----|
#-----------------|------------------------------------------------------|
 001:0037--------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            01:WEST_PRE     11.10     .937 No_date     1:53   41.57
                      + 02:NORTH         1.01     .358 No_date     1:20   67.51
                      + 03:SOUTH          .57     .244 No_date     1:20   72.04
                      + 04:INT_AREA       .79     .233 No_date     1:21   64.71
       [DT= 1.00]  SUM= 05:TO_POND      13.47    1.108 No_date     1:50   46.16
#-----------------|------------------------------------------------------|
#---------------------------- NE SWM POND (PHASE 1) ---------------------|
#-----------------|------------------------------------------------------|
 001:0038--------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ROUTE RESERVOIR -> 05:TO_POND      13.47    1.108 No_date     1:50   46.16
       [RDT= 1.00] out<- 06:NE_Pond     13.47     .088 No_date     4:24   46.16
             overflow <= 09:OVF           .00     .000 No_date     0:00     .00
     {MxStoUsed=.5187E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs
#-----------------|------------------------------------------------------|
#--------------------------------- R4 ----------------------------------|
#-----------------|------------------------------------------------------|
 001:0039--------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     DESIGN STANDHYD    02:R4             .48     .157 No_date     1:20   67.15
       [XIMP=.56:TIMP=.70]
       [SLP= .50:DT= 1.00]
       [LOSS= 2 :CN= 84.0]
#-----------------|------------------------------------------------------|
 001:0040--------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ROUTE RESERVOIR -> 02:R4             .48     .157 No_date     1:20   67.15
       [RDT= 1.00] out<- 04:StR4          .48     .030 No_date     1:57   67.15
             overflow <= 09:OVF           .00     .000 No_date     0:00     .00
     {MxStoUsed=.1689E-01, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs
#-----------------|------------------------------------------------------|
#------------------------- DISHARGE TO HIGH STREET (PHASE 1) ------------|
#-----------------|------------------------------------------------------|
 001:0041--------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            04:StR4           .48     .030 No_date     1:57   67.15
                      + 06:NE_Pond      13.47     .088 No_date     4:24   46.16
       [DT= 1.00]  SUM= 07:P1_HIGH      13.95     .109 No_date     2:25   46.89
#-----------------|------------------------------------------------------|
#************************************************************************
#--------------------------------- REGIONAL EVENT -----------------------|
#************************************************************************
#-----------------|------------------------------------------------------|
 001:0042-------------------------------------------------------------------
     READ STORM
       Filename = tim.STM
       Comment  =
       [SDT=60.00:SDUR=  12.00:PTOT= 193.00]
#-----------------|------------------------------------------------------|
#-----------------|--------- AREA WEST OF INTERSECTION (10HA) ----------|
#-----------------|------------------------------------------------------|
 001:0043--------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       01:WEST_PRE     11.10    1.087 No_date     7:06  146.65
       [CN= 84.0: N= 3.00]
       [Tp=  .41:DT= 1.00]
#-----------------|------------------------------------------------------|
#-----------------|--------- AREA NORTH OF POND (&INC POND)-------------|
#-----------------|------------------------------------------------------|
 001:0044--------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD     02:NORTH         1.01     .117 No_date     7:00  180.73
       [XIMP=.62:TIMP=.78]
       [LOSS= 2 :CN= 84.0]
       [Pervious    area: IAper= 8.00:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 2.00:SLPI= .50:LGI=  60.:MNI=.013:SCI=   .0]
#-----------------|------------------------------------------------------|
#-----------------|---------------- AREA SOUTH OF POND ------------------|
#-----------------|------------------------------------------------------|
 001:0045--------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD     03:SOUTH          .57     .068 No_date     7:00  186.32
       [XIMP=.72:TIMP=.90]
       [LOSS= 2 :CN= 84.0]
       [Pervious    area: IAper= 8.00:SLPP= .50:LGP=  10.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 2.00:SLPI= .50:LGI= 100.:MNI=.013:SCI=   .0]
#-----------------|------------------------------------------------------|
#-----------------|----- INTERSECTION AREA (TO NE POND - PHASE 1) ------|
#-----------------|------------------------------------------------------|
 001:0046--------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD     04:INT_AREA       .79     .090 No_date     7:00  177.14
       [XIMP=.56:TIMP=.70]
       [LOSS= 2 :CN= 84.0]
       [Pervious    area: IAper= 8.00:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 2.00:SLPI= .50:LGI= 110.:MNI=.013:SCI=   .0]
#-----------------|------------------------------------------------------|
#---------------------- TOTAL AREA CONTRIBUTING TO NE POND (PHASE 1) ----|
#-----------------|------------------------------------------------------|
 001:0047--------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            01:WEST_PRE     11.10    1.087 No_date     7:06  146.65
                      + 02:NORTH         1.01     .117 No_date     7:00  180.73
                      + 03:SOUTH          .57     .068 No_date     7:00  186.32
                      + 04:INT_AREA       .79     .090 No_date     7:00  177.14
       [DT= 1.00]  SUM= 05:TO_POND      13.47    1.341 No_date     7:01  152.67
#-----------------|------------------------------------------------------|
#---------------------------- NE SWM POND (PHASE 1) ---------------------|
#-----------------|------------------------------------------------------|
 001:0048--------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ROUTE RESERVOIR -> 05:TO_POND      13.47    1.341 No_date     7:01  152.67
       [RDT= 1.00] out<- 06:NE_Pond     13.47     .115 No_date    12:34  152.67
             overflow <= 09:OVF           .00     .000 No_date     0:00     .00
     {MxStoUsed=.1673E+01, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs
#-----------------|------------------------------------------------------|
#--------------------------------- R4 ----------------------------------|
#-----------------|------------------------------------------------------|
 001:0049--------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     DESIGN STANDHYD    02:R4             .48     .055 No_date     7:00  179.72
       [XIMP=.56:TIMP=.70]
       [SLP= .50:DT= 1.00]
       [LOSS= 2 :CN= 84.0]
#-----------------|------------------------------------------------------|
 001:0050--------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ROUTE RESERVOIR -> 02:R4             .48     .055 No_date     7:00  179.72
       [RDT= 1.00] out<- 04:StR4          .48     .033 No_date     7:19  179.72
             overflow <= 09:OVF           .00     .000 No_date     0:00     .00
     {MxStoUsed=.1862E-01, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs
#-----------------|------------------------------------------------------|
#------------------------- DISHARGE TO HIGH STREET (PHASE 1) ------------|
#-----------------|------------------------------------------------------|
 001:0051--------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            04:StR4           .48     .033 No_date     7:19  179.72
                      + 06:NE_Pond      13.47     .115 No_date    12:34  152.67
       [DT= 1.00]  SUM= 07:P1_HIGH      13.95     .138 No_date     9:07  153.60
#-----------------|------------------------------------------------------|
 001:0052-------------------------------------------------------------------
      FINISH
----------------------------------------------------------------------------
****************************************************************************
     WARNINGS / ERRORS / NOTES
     -------------------------
   Simulation ended on 2015-04-09     at 09:27:36
============================================================================
```

```
2      Metric units
*#*******************************************************************************
*#  Project Name  [West End Commercial, Collingwood]    Project Number: [183-269
*#  Date          April 9, 2015
*#  Modeller      [T. MacDougall]
*#  Company       CF Crozier & Associates Inc.
*#  License #   :  3737016
*#*******************************************************************************
*#   Interim Condition - NE Pond & Block 1 Ponding Only
*#
*#   Rainfall Data:  Storms are the SCS Volumes from MTO Design Chart 1.01(e)
*#   District 5: Owen Sound, Basins West of and including Collingwood.
*#-----------------|-------------------------------------------------------------|
START                 TZERO=[0.0],   METOUT=[2],   NSTORM=[0],   NRUN=[0]
*%                     [  ] <--storm filename, one per line for NSTORM time
*#-----------------|-------------------------------------------------------------|
*#*******************************************************************************
*#******************************** 25mm event ***********************************
*#*******************************************************************************
*#-----------------|-------------------------------------------------------------|
MASS STORM            PTOTAL=[25](mm), CSDT=[1](min),
                      CURVE_FILENAME=["SCS24HII.mst"]
*#-----------------|-------------------------------------------------------------|
*#-----------------|--------- AREA WEST OF INTERSECTION (10HA) ------------------|
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD          ID=[1], NHYD=["WEST_PRE"], DT=[1]min, AREA=[11.1](ha),
                      DWF=[0](cms),   CN/C=[84], IA=[8](mm),
                      N=[3], TP=[0.41]hrs,
                      RAINFALL=[ ,   ,   ,   , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
*#-----------------|--------- AREA NORTH OF POND (&INC POND)--------------------|
*#-----------------|-------------------------------------------------------------|
CALIB STANDHYD        ID=[2], NHYD=["NORTH"], DT=[1](min), AREA=[1.01](ha),
                      XIMP=[0.62], TIMP=[0.78], DWF=[0](cms), LOSS=[2],
                      SCS curve number CN=[84],
                      Pervious   surfaces: IAper=[8](mm), SLPP=[0.5](%),
                                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                      Impervious surfaces: IAimp=[2](mm), SLPI=[0.5](%),
                                           LGI=[60](m), MNI=[0.013], SCI=[0](min),
                      RAINFALL=[ ,   ,   ,   , ](mm/hr) ,  END=-1
*#-----------------|-------------------------------------------------------------|
*#-----------------|---------------- AREA SOUTH OF POND ------------------------|
*#-----------------|-------------------------------------------------------------|
CALIB STANDHYD        ID=[3], NHYD=["SOUTH"], DT=[1](min), AREA=[0.57](ha),
                      XIMP=[0.72], TIMP=[0.9], DWF=[0](cms), LOSS=[2],
                      SCS curve number CN=[84],
                      Pervious   surfaces: IAper=[8](mm), SLPP=[0.5](%),
                                           LGP=[10](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
*#-----------------|-------------------------------------------------------------|
*#-----------------|----- INTERSECTION AREA (TO NE POND - PHASE 1) -------------|
*#-----------------|-------------------------------------------------------------|
CALIB STANDHYD        ID=[4], NHYD=["INT_AREA"], DT=[1](min), AREA=[0.79](ha),
                      XIMP=[0.56], TIMP=[0.70], DWF=[0](cms), LOSS=[2],
                      SCS curve number CN=[84],
                      Pervious   surfaces: IAper=[8](mm), SLPP=[0.5](%),
                                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                      Impervious surfaces: IAimp=[2.0](mm), SLPI=[0.5](%),
                                           LGI=[110](m), MNI=[0.013], SCI=[0](min)
                      RAINFALL=[ ,   ,   ,   , ](mm/hr) ,  END=-1
*#-----------------|-------------------------------------------------------------|
*#-------------------------- TOTAL AREA CONTRIBUTING TO NE POND (PHASE 1) -------|
*#-----------------|-------------------------------------------------------------|
ADD HYD               IDsum=[5], NHYD=["TO_POND"], IDs to add=[1+2+3+4]
*#-----------------|-------------------------------------------------------------|
*#------------------------------ NE SWM POND (PHASE 1) --------------------------|
*#-----------------|-------------------------------------------------------------|
ROUTE RESERVOIR       IDout=[6],   NHYD=["NE_Pond"],  IDin=[5],
                      RDT=[1](min),
                            TABLE of ( OUTFLOW-STORAGE ) values
                                        (cms) - (ha-m)
                                      [   0.0 ,  0.0   ]
                                      [ 0.051 ,  0.058 ]
                                      [ 0.066 ,  0.092 ]
                                      [ 0.078 ,  0.266 ]
                                      [ 0.093 ,  0.662 ]
                                      [ 0.107 ,  1.203 ]
                                      [ 0.115 ,  1.645 ]
                                      [ 0.125 ,  2.457 ]
                                      [ 0.136 ,  3.471 ]
                                      [   -1  ,  -1    ]  (max twenty pts)
                            IDovf=[9], NHYDovf=["OVF"]
*#-----------------|-------------------------------------------------------------|
*#-------------------------------------- R4 -------------------------------------|
*#-----------------|-------------------------------------------------------------|
DESIGN STANDHYD       ID=[2], NHYD=["R4"], DT=[1]min, AREA=[0.48](ha),
                      XIMP=[0.56], TIMP=[0.70], DWF=[0](cms), LOSS=[2], CN=[84],
                      SLOPE=[0.5](%), RAINFALL=[ , , , , ](mm/hr), END=-1
*#-----------------|-------------------------------------------------------------|
ROUTE RESERVOIR       IDout=[4],   NHYD=["StR4"],  IDin=[2],
                      RDT=[1](min),
                            TABLE of ( OUTFLOW-STORAGE ) values
                                        (cms) - (ha-m)
                                      [   0.0 ,  0.0  ]
                                      [  0.035,  0.020]
                                      [   -1  ,  -1   ]  (max twenty pts)
                            IDovf=[9], NHYDovf=["OVF"]
*#-----------------|-------------------------------------------------------------|
*#--------------------------- DISHARGE TO HIGH STREET (PHASE 1) -----------------|
*#-----------------|-------------------------------------------------------------|
ADD HYD               IDsum=[7], NHYD=["P1_HIGH"], IDs to add=[4+6]
*#-----------------|-------------------------------------------------------------|
*#*******************************************************************************
*#**************************** 24 hour SCS 5-year *******************************
*#*******************************************************************************
*%-----------------|-------------------------------------------------------------|
MASS STORM            PTOTAL=[62.4](mm), CSDT=[1](min),
                      CURVE_FILENAME=["SCS24HII.mst"]
*#-----------------|-------------------------------------------------------------|
*#-----------------|--------- AREA WEST OF INTERSECTION (10HA) ------------------|
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD          ID=[1], NHYD=["WEST_PRE"], DT=[1]min, AREA=[11.1](ha),
                      DWF=[0](cms),   CN/C=[84], IA=[8](mm),
                      N=[3], TP=[0.41]hrs,
                      RAINFALL=[ ,   ,   ,   , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
*#-----------------|--------- AREA NORTH OF POND (&INC POND)--------------------|
*#-----------------|-------------------------------------------------------------|
CALIB STANDHYD        ID=[2], NHYD=["NORTH"], DT=[1](min), AREA=[1.01](ha),
                      XIMP=[0.62], TIMP=[0.78], DWF=[0](cms), LOSS=[2],
                      SCS curve number CN=[84],
                      Pervious   surfaces: IAper=[8](mm), SLPP=[0.5](%),
                                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                      Impervious surfaces: IAimp=[2](mm), SLPI=[0.5](%),
                                           LGI=[60](m), MNI=[0.013], SCI=[0](min),
                      RAINFALL=[ ,   ,   ,   , ](mm/hr) ,  END=-1
*#-----------------|-------------------------------------------------------------|
*#-----------------|---------------- AREA SOUTH OF POND ------------------------|
*#-----------------|-------------------------------------------------------------|
CALIB STANDHYD        ID=[3], NHYD=["SOUTH"], DT=[1](min), AREA=[0.57](ha),
                      XIMP=[0.72], TIMP=[0.9], DWF=[0](cms), LOSS=[2],
                      SCS curve number CN=[84],
                      Pervious   surfaces: IAper=[8](mm), SLPP=[0.5](%),
                                           LGP=[10](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
*#-----------------|-------------------------------------------------------------|
*#-----------------|----- INTERSECTION AREA (TO NE POND - PHASE 1) -------------|
*#-----------------|-------------------------------------------------------------|
CALIB STANDHYD        ID=[4], NHYD=["INT_AREA"], DT=[1](min), AREA=[0.79](ha),
                      XIMP=[0.56], TIMP=[0.70], DWF=[0](cms), LOSS=[2],
                      SCS curve number CN=[84],
                      Pervious   surfaces: IAper=[8](mm), SLPP=[0.5](%),
                                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                      Impervious surfaces: IAimp=[2.0](mm), SLPI=[0.5](%),
                                           LGI=[110](m), MNI=[0.013], SCI=[0](min)
                      RAINFALL=[ ,   ,   ,   , ](mm/hr) ,  END=-1
*#-----------------|-------------------------------------------------------------|
*#-------------------------- TOTAL AREA CONTRIBUTING TO NE POND (PHASE 1) -------|
*#-----------------|-------------------------------------------------------------|
ADD HYD               IDsum=[5], NHYD=["TO_POND"], IDs to add=[1+2+3+4]
*#-----------------|-------------------------------------------------------------|
*#------------------------------ NE SWM POND (PHASE 1) --------------------------|
*#-----------------|-------------------------------------------------------------|
ROUTE RESERVOIR       IDout=[6],   NHYD=["NE_Pond"],  IDin=[5],
                      RDT=[1](min),
                            TABLE of ( OUTFLOW-STORAGE ) values
                                        (cms) - (ha-m)
                                      [   0.0 ,  0.0   ]
                                      [ 0.051 ,  0.058 ]
                                      [ 0.066 ,  0.092 ]
                                      [ 0.078 ,  0.266 ]
                                      [ 0.093 ,  0.662 ]
                                      [ 0.107 ,  1.203 ]
                                      [ 0.115 ,  1.645 ]
                                      [ 0.125 ,  2.457 ]
                                      [ 0.136 ,  3.471 ]
                                      [   -1  ,  -1    ]  (max twenty pts)
                            IDovf=[9], NHYDovf=["OVF"]
*#-----------------|-------------------------------------------------------------|
*#-------------------------------------- R4 -------------------------------------|
*#-----------------|-------------------------------------------------------------|
DESIGN STANDHYD       ID=[2], NHYD=["R4"], DT=[1]min, AREA=[0.48](ha),
                      XIMP=[0.56], TIMP=[0.70], DWF=[0](cms), LOSS=[2], CN=[84],
                      SLOPE=[0.5](%), RAINFALL=[ , , , , ](mm/hr), END=-1
*#-----------------|-------------------------------------------------------------|
ROUTE RESERVOIR       IDout=[4],   NHYD=["StR4"],  IDin=[2],
                      RDT=[1](min),
                            TABLE of ( OUTFLOW-STORAGE ) values
                                        (cms) - (ha-m)
                                      [   0.0 ,  0.0  ]
                                      [  0.035,  0.020]
                                      [   -1  ,  -1   ]  (max twenty pts)
                            IDovf=[9], NHYDovf=["OVF"]
*#-----------------|-------------------------------------------------------------|
*#--------------------------- DISHARGE TO HIGH STREET (PHASE 1) -----------------|
*#-----------------|-------------------------------------------------------------|
ADD HYD               IDsum=[7], NHYD=["P1_HIGH"], IDs to add=[4+6]
*#-----------------|-------------------------------------------------------------|
*#*******************************************************************************
*#**************************** 24 hour SCS 25-year ******************************
*#*******************************************************************************
*%-----------------|-------------------------------------------------------------|
MASS STORM            PTOTAL=[86.4](mm), CSDT=[1](min),
                      CURVE_FILENAME=["SCS24HII.mst"]
*#-----------------|-------------------------------------------------------------|
*#-----------------|--------- AREA WEST OF INTERSECTION (10HA) ------------------|
*#-----------------|-------------------------------------------------------------|
CALIB NASHYD          ID=[1], NHYD=["WEST_PRE"], DT=[1]min, AREA=[11.1](ha),
                      DWF=[0](cms),   CN/C=[84], IA=[8](mm),
                      N=[3], TP=[0.41]hrs,
                      RAINFALL=[ ,   ,   ,   , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------------|
*#-----------------|--------- AREA NORTH OF POND (&INC POND)--------------------|
*#-----------------|-------------------------------------------------------------|
CALIB STANDHYD        ID=[2], NHYD=["NORTH"], DT=[1](min), AREA=[1.01](ha),
                      XIMP=[0.62], TIMP=[0.78], DWF=[0](cms), LOSS=[2],
                      SCS curve number CN=[84],
                      Pervious   surfaces: IAper=[8](mm), SLPP=[0.5](%),
                                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                      Impervious surfaces: IAimp=[2](mm), SLPI=[0.5](%),
                                           LGI=[60](m), MNI=[0.013], SCI=[0](min),
                      RAINFALL=[ ,   ,   ,   , ](mm/hr) ,  END=-1
*#-----------------|-------------------------------------------------------------|
*#-----------------|---------------- AREA SOUTH OF POND ------------------------|
*#-----------------|-------------------------------------------------------------|
CALIB STANDHYD        ID=[3], NHYD=["SOUTH"], DT=[1](min), AREA=[0.57](ha),
                      XIMP=[0.72], TIMP=[0.9], DWF=[0](cms), LOSS=[2],
                      SCS curve number CN=[84],
                      Pervious   surfaces: IAper=[8](mm), SLPP=[0.5](%),
                                           LGP=[10](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
*#-----------------|-------------------------------------------------------------|
*#-----------------|----- INTERSECTION AREA (TO NE POND - PHASE 1) -------------|
*#-----------------|-------------------------------------------------------------|
CALIB STANDHYD        ID=[4], NHYD=["INT_AREA"], DT=[1](min), AREA=[0.79](ha),
                      XIMP=[0.56], TIMP=[0.70], DWF=[0](cms), LOSS=[2],
                      SCS curve number CN=[84],
                      Pervious   surfaces: IAper=[8](mm), SLPP=[0.5](%),
                                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                      Impervious surfaces: IAimp=[2.0](mm), SLPI=[0.5](%),
                                           LGI=[110](m), MNI=[0.013], SCI=[0](min)
                      RAINFALL=[ ,   ,   ,   , ](mm/hr) ,  END=-1
*#-----------------|-------------------------------------------------------------|
*#-------------------------- TOTAL AREA CONTRIBUTING TO NE POND (PHASE 1) -------|
*#-----------------|-------------------------------------------------------------|
ADD HYD               IDsum=[5], NHYD=["TO_POND"], IDs to add=[1+2+3+4]
*#-----------------|-------------------------------------------------------------|
*#------------------------------ NE SWM POND (PHASE 1) --------------------------|
*#-----------------|-------------------------------------------------------------|
ROUTE RESERVOIR       IDout=[6],   NHYD=["NE_Pond"],  IDin=[5],
                      RDT=[1](min),
                            TABLE of ( OUTFLOW-STORAGE ) values
                                        (cms) - (ha-m)
                                      [   0.0 ,  0.0   ]
                                      [ 0.051 ,  0.058 ]
                                      [ 0.066 ,  0.092 ]
                                      [ 0.078 ,  0.266 ]
                                      [ 0.093 ,  0.662 ]
                                      [ 0.107 ,  1.203 ]
                                      [ 0.115 ,  1.645 ]
                                      [ 0.125 ,  2.457 ]
                                      [ 0.136 ,  3.471 ]
                                      [   -1  ,  -1    ]  (max twenty pts)
                            IDovf=[9], NHYDovf=["OVF"]
*#-----------------|-------------------------------------------------------------|
*#-------------------------------------- R4 -------------------------------------|
*#-----------------|-------------------------------------------------------------|
DESIGN STANDHYD       ID=[2], NHYD=["R4"], DT=[1]min, AREA=[0.48](ha),
                      XIMP=[0.56], TIMP=[0.70], DWF=[0](cms), LOSS=[2], CN=[84],
                      SLOPE=[0.5](%), RAINFALL=[ , , , , ](mm/hr), END=-1
*#-----------------|-------------------------------------------------------------|
ROUTE RESERVOIR       IDout=[4],   NHYD=["StR4"],  IDin=[2],
                      RDT=[1](min),
                            TABLE of ( OUTFLOW-STORAGE ) values
```

```
                                           (cms) - (ha-m)
                                        [   0.0 ,   0.0  ]
                                        [ 0.035,  0.020]
                                        [   -1  ,  -1   ]  (max twenty pts)
                              IDovf=[9], NHYDovf=["OVF"]
*#----------------|------------------------------------------------------------|
*#----------------------------- DISHARGE TO HIGH STREET (PHASE 1) ---------------|
*#----------------|------------------------------------------------------------|
ADD HYD            IDsum=[7], NHYD=["P1_HIGH"], IDs to add=[4+6]
*#----------------|------------------------------------------------------------|
*#*******************************************************************************
*#--------------------------------- 24 hour SCS 100-year -----------------------|
*#*******************************************************************************
*#----------------|------------------------------------------------------------|
MASS STORM         PTOTAL=[108.0](mm), CSDT=[12](min),
                   CURVE_FILENAME=["SCS24HII.MST"]
*#----------------|------------------------------------------------------------|
*#----------------|--------- AREA WEST OF INTERSECTION (10HA) ----------------|
*#----------------|------------------------------------------------------------|
CALIB NASHYD       ID=[1], NHYD=["WEST_PRE"], DT=[1]min, AREA=[11.1](ha),
                   DWF=[0](cms),  CN/C=[84], IA=[8](mm),
                   N=[3], TP=[0.41]hrs,
                   RAINFALL=[ ,   ,   ,  , ](mm/hr),  END=-1
*#----------------|------------------------------------------------------------|
*#----------------|--------- AREA NORTH OF POND (&INC POND)-------------------|
*#----------------|------------------------------------------------------------|
CALIB STANDHYD     ID=[2], NHYD=["NORTH"], DT=[1](min), AREA=[1.01](ha),
                   XIMP=[0.62], TIMP=[0.78], DWF=[0](cms), LOSS=[2],
                   SCS curve number CN=[84],
                   Pervious   surfaces: IAper=[8](mm), SLPP=[0.5](%),
                                        LGP=[40](m), MNP=[0.25], SCP=[0](min),
                   Impervious surfaces: IAimp=[2](mm), SLPI=[0.5](%),
                                        LGI=[60](m), MNI=[0.013], SCI=[0](min),
                   RAINFALL=[ ,   ,   ,   , ](mm/hr) ,  END=-1
*#----------------|------------------------------------------------------------|
*#----------------|---------------- AREA SOUTH OF POND -----------------------|
*#----------------|------------------------------------------------------------|
CALIB STANDHYD     ID=[3], NHYD=["SOUTH"], DT=[1](min), AREA=[0.57](ha),
                   XIMP=[0.72], TIMP=[0.9], DWF=[0](cms), LOSS=[2],
                   SCS curve number CN=[84],
                   Pervious   surfaces: IAper=[8](mm), SLPP=[0.5](%),
                                        LGP=[10](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
*#----------------|------------------------------------------------------------|
*#----------------|----- INTERSECTION AREA (TO NE POND - PHASE 1) ------------|
*#----------------|------------------------------------------------------------|
CALIB STANDHYD     ID=[4], NHYD=["INT_AREA"], DT=[1](min), AREA=[0.79](ha),
                   XIMP=[0.56], TIMP=[0.70], DWF=[0](cms), LOSS=[2],
                   SCS curve number CN=[84],
                   Pervious   surfaces: IAper=[8](mm), SLPP=[0.5](%),
                                        LGP=[40](m), MNP=[0.25], SCP=[0](min),
                   Impervious surfaces: IAimp=[2.0](mm), SLPI=[0.5](%),
                                        LGI=[110](m), MNI=[0.013], SCI=[0](min)
                   RAINFALL=[ ,   ,   ,   , ](mm/hr) ,  END=-1
*#----------------|------------------------------------------------------------|
*#----------------------- TOTAL AREA CONTRIBUTING TO NE POND (PHASE 1) --------|
*#----------------|------------------------------------------------------------|
ADD HYD            IDsum=[5], NHYD=["TO_POND"], IDs to add=[1+2+3+4]
*#----------------|------------------------------------------------------------|
*#------------------------------------ NE SWM POND (PHASE 1) ------------------|
*#----------------|------------------------------------------------------------|
ROUTE RESERVOIR    IDout=[6],   NHYD=["NE_Pond"],  IDin=[5],
                   RDT=[1](min),
                              TABLE of ( OUTFLOW-STORAGE ) values
                                           (cms) - (ha-m)
                                        [   0.0 ,  0.0   ]
                                        [ 0.051 ,  0.058 ]
                                        [ 0.066 ,  0.092 ]
                                        [ 0.078 ,  0.266 ]
                                        [ 0.093 ,  0.662 ]
                                        [ 0.107 ,  1.203 ]
                                        [ 0.115 ,  1.645 ]
                                        [ 0.125 ,  2.457 ]
                                        [ 0.136 ,  3.471 ]
                                        [   -1  ,  -1    ]  (max twenty pts)
                              IDovf=[9], NHYDovf=["OVF"]
*#----------------|------------------------------------------------------------|
*#---------------------------------------- R4 ---------------------------------|
*#----------------|------------------------------------------------------------|
DESIGN STANDHYD    ID=[2], NHYD=["R4"], DT=[1]min, AREA=[0.48](ha),
                   XIMP=[0.56], TIMP=[0.70], DWF=[0](cms), LOSS=[2], CN=[84],
                   SLOPE=[0.5](%), RAINFALL=[ , , , , ](mm/hr), END=-1
*#----------------|------------------------------------------------------------|
ROUTE RESERVOIR    IDout=[4],   NHYD=["StR4"],  IDin=[2],
                   RDT=[1](min),
                              TABLE of ( OUTFLOW-STORAGE ) values
                                           (cms) - (ha-m)
                                        [   0.0 ,   0.0  ]
                                        [ 0.035,  0.020]
                                        [   -1  ,   1   ]  (max twenty pts)
                              IDovf=[9], NHYDovf=["OVF"]
*#----------------|------------------------------------------------------------|
*#----------------------------- DISHARGE TO HIGH STREET (PHASE 1) ---------------|
*#----------------|------------------------------------------------------------|
ADD HYD            IDsum=[7], NHYD=["P1_HIGH"], IDs to add=[4+6]
*#----------------|------------------------------------------------------------|
*#*******************************************************************************
*#--------------------------------- REGIONAL EVENT ------------------------------|
*#*******************************************************************************
*#----------------|------------------------------------------------------------|
READ STORM         STORM_FILENAME=["tim.STM"]
*#----------------|------------------------------------------------------------|
*#----------------|--------- AREA WEST OF INTERSECTION (10HA) ----------------|
*#----------------|------------------------------------------------------------|
CALIB NASHYD       ID=[1], NHYD=["WEST_PRE"], DT=[1]min, AREA=[11.1](ha),
                   DWF=[0](cms),  CN/C=[84], IA=[8](mm),
                   N=[3], TP=[0.41]hrs,
                   RAINFALL=[ ,   ,   ,  , ](mm/hr),  END=-1
*#----------------|------------------------------------------------------------|
*#----------------|--------- AREA NORTH OF POND (&INC POND)-------------------|
*#----------------|------------------------------------------------------------|
CALIB STANDHYD     ID=[2], NHYD=["NORTH"], DT=[1](min), AREA=[1.01](ha),
                   XIMP=[0.62], TIMP=[0.78], DWF=[0](cms), LOSS=[2],
                   SCS curve number CN=[84],
                   Pervious   surfaces: IAper=[8](mm), SLPP=[0.5](%),
                                        LGP=[40](m), MNP=[0.25], SCP=[0](min),
                   Impervious surfaces: IAimp=[2](mm), SLPI=[0.5](%),
                                        LGI=[60](m), MNI=[0.013], SCI=[0](min),
                   RAINFALL=[ ,   ,   ,   , ](mm/hr) ,  END=-1
*#----------------|------------------------------------------------------------|
*#----------------|---------------- AREA SOUTH OF POND -----------------------|
*#----------------|------------------------------------------------------------|
CALIB STANDHYD     ID=[3], NHYD=["SOUTH"], DT=[1](min), AREA=[0.57](ha),
                   XIMP=[0.72], TIMP=[0.9], DWF=[0](cms), LOSS=[2],
                   SCS curve number CN=[84],
                   Pervious   surfaces: IAper=[8](mm), SLPP=[0.5](%),
                                        LGP=[10](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
*#----------------|------------------------------------------------------------|
*#----------------|----- INTERSECTION AREA (TO NE POND - PHASE 1) ------------|
*#----------------|------------------------------------------------------------|
CALIB STANDHYD     ID=[4], NHYD=["INT_AREA"], DT=[1](min), AREA=[0.79](ha),
                   XIMP=[0.56], TIMP=[0.70], DWF=[0](cms), LOSS=[2],
                   SCS curve number CN=[84],
                   Pervious   surfaces: IAper=[8](mm), SLPP=[0.5](%),
                                        LGP=[40](m), MNP=[0.25], SCP=[0](min),
                   Impervious surfaces: IAimp=[2.0](mm), SLPI=[0.5](%),
                                        LGI=[110](m), MNI=[0.013], SCI=[0](min)
                   RAINFALL=[ ,   ,   ,   , ](mm/hr) ,  END=-1
*#----------------|------------------------------------------------------------|
*#----------------------- TOTAL AREA CONTRIBUTING TO NE POND (PHASE 1) --------|
*#----------------|------------------------------------------------------------|
ADD HYD            IDsum=[5], NHYD=["TO_POND"], IDs to add=[1+2+3+4]
*#----------------|------------------------------------------------------------|
*#------------------------------------ NE SWM POND (PHASE 1) ------------------|
*#----------------|------------------------------------------------------------|
ROUTE RESERVOIR    IDout=[6],   NHYD=["NE_Pond"],  IDin=[5],
                   RDT=[1](min),
                              TABLE of ( OUTFLOW-STORAGE ) values
                                           (cms) - (ha-m)
                                        [   0.0 ,  0.0   ]
                                        [ 0.051 ,  0.058 ]
                                        [ 0.066 ,  0.092 ]
                                        [ 0.078 ,  0.266 ]
                                        [ 0.093 ,  0.662 ]
                                        [ 0.107 ,  1.203 ]
                                        [ 0.115 ,  1.645 ]
                                        [ 0.125 ,  2.457 ]
                                        [ 0.136 ,  3.471 ]
                                        [   -1  ,  -1    ]  (max twenty pts)
                              IDovf=[9], NHYDovf=["OVF"]
*#----------------|------------------------------------------------------------|
*#---------------------------------------- R4 ---------------------------------|
*#----------------|------------------------------------------------------------|
DESIGN STANDHYD    ID=[2], NHYD=["R4"], DT=[1]min, AREA=[0.48](ha),
                   XIMP=[0.56], TIMP=[0.70], DWF=[0](cms), LOSS=[2], CN=[84],
                   SLOPE=[0.5](%), RAINFALL=[ , , , , ](mm/hr), END=-1
*#----------------|------------------------------------------------------------|
ROUTE RESERVOIR    IDout=[4],   NHYD=["StR4"],  IDin=[2],
                   RDT=[1](min),
                              TABLE of ( OUTFLOW-STORAGE ) values
                                           (cms) - (ha-m)
                                        [   0.0 ,   0.0  ]
                                        [ 0.035,  0.020]
                                        [   -1  ,  -1   ]  (max twenty pts)
                              IDovf=[9], NHYDovf=["OVF"]
*#----------------|------------------------------------------------------------|
*#----------------------------- DISHARGE TO HIGH STREET (PHASE 1) ---------------|
*#----------------|------------------------------------------------------------|
ADD HYD            IDsum=[7], NHYD=["P1_HIGH"], IDs to add=[4+6]
*#----------------|------------------------------------------------------------|
FINISH
```

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

   SSSSS  W   W  M   M  H   H  Y   Y  M   M   OOO        999   999    =========
   S       W W W  MM MM  H   H   Y Y   MM MM  O   O      9   9 9   9
   SSSSS  W W W  M M M  HHHHH    Y    M M M  O   O  ##  9   9 9   9   Ver  4.05
       S   W W   M   M  H   H    Y    M   M  O   O       9999  9999   Sept 2011
   SSSSS   W W   M   M  H   H    Y    M   M   OOO           9     9   =========
                                                         9   9 9   9  # 3737016
        StormWater Management HYdrologic Model            999   999   =========

 **************************************************************************
 ***************************** SWMHYMO Ver/4.05 ****************************
 *********  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   :    10        *********
 *********              Max. number of rainfall points: 105408        *********
 *********              Max. number of flow points    : 105408        *********
 **************************************************************************

 ***** DESCRIPTION SUMMARY TABLE HEADERS (units depend on METOUT in START) *****
 *****-------------------------------------------------------------------*****
 *****    ID:  Hydrograph IDentification numbers, (1-10).                *****
 *****  NHYD:  Hydrograph reference numbers, (6 digits or characters).   *****
 *****  AREA:  Drainage area associated with hydrograph, (ac.) or (ha.). *****
 ***** QPEAK:  Peak flow of simulated hydrograph, (ft^3/s) or (m^3/s).   *****
 ***** TpeakDate_hh:mm is the date and time of the peak flow.            *****
 *****  R.V.:  Runoff Volume of simulated hydrograph, (in) or (mm).      *****
 *****  R.C.:  Runoff Coefficient of simulated hydrograph, (ratio).      *****
 *****     *:  see WARNING or NOTE message printed at end of run.        *****
 *****    **:  see  ERROR  message printed at end of run.                *****
 **************************************************************************
 **************************************************************************

 ::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::

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

 *********************    S U M M A R Y   O U T P U T    *****************
 **************************************************************************
 *        DATE: 2015-04-09      TIME: 09:27:04      RUN COUNTER: 000139  *
 **************************************************************************
 * Input   filename: C:\SWMHYMO\THIRDH~1\PHASE1~1\PoSCS4p1.DAT              *
 * Output  filename: C:\SWMHYMO\THIRDH~1\PHASE1~1\PoSCS4p1.out              *
 * Summary filename: C:\SWMHYMO\THIRDH~1\PHASE1~1\PoSCS4p1.sum              *
 * User comments:                                                           *
 * 1:_______________________________________________________________________*
 * 2:_______________________________________________________________________*
 * 3:_______________________________________________________________________*
 **************************************************************************


#**************************************************************************
#  Project Name: [West End Commercial, Collingwood]    Project Number: [183-269
#  Date        : April 9, 2015
#  Modeller    : [T. MacDougall]
#  Company     : CF Crozier & Associates Inc.
#  License #   :  3737016
#**************************************************************************
#   Interim Condition - NE Pond & Block 1 Ponding Only
#
#   Rainfall Data:  Storms are the SCS Volumes from MTO Design Chart 1.01(e)
#   District 5: Owen Sound, Basins West of and including Collingwood.
#-----------------|-------------------------------------------------------|
 RUN:COMMAND#
 001:0001------------------------------------------------------------------
     START
      [TZERO =     .00 hrs on        0]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   0 ]
      [NRUN  =   1 ]
#-----------------|-------------------------------------------------------|
#**************************************************************************
#******************************* 25mm event *******************************
#**************************************************************************
#-----------------|-------------------------------------------------------|
 001:0002------------------------------------------------------------------
     MASS STORM
      Filename = C:\SWMHYMO\THIRDH~1\PHASE1~1\SCS24HII.mst
      Comment  = 24 hour SCS II storm mass curve
      [SDT= 1.00:SDUR=  24.00:PTOT=  25.00]
#-----------------|-------------------------------------------------------|
#-----------------|--------- AREA WEST OF INTERSECTION (10HA) ------------|
#-----------------|-------------------------------------------------------|
 001:0003---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD         01:WEST_PRE      11.10      .061 No_date   12:37    4.42
      [CN= 84.0: N= 3.00]
      [Tp=   .41:DT= 1.00]
#-----------------|-------------------------------------------------------|
#-----------------|--------- AREA NORTH OF POND (&INC POND)---------------|
#-----------------|-------------------------------------------------------|
 001:0004---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD       02:NORTH          1.01      .049 No_date   12:12   17.52
      [XIMP=.62:TIMP=.78]
      [LOSS= 2 :CN= 84.0]
      [Pervious     area: IAper= 8.00:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI= .50:LGI=  60.:MNI=.013:SCI=   .0]
#-----------------|-------------------------------------------------------|
#-----------------|---------------- AREA SOUTH OF POND -------------------|
#-----------------|-------------------------------------------------------|
 001:0005---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD       03:SOUTH           .57      .034 No_date   12:13   20.04
      [XIMP=.72:TIMP=.90]
      [LOSS= 2 :CN= 84.0]
      [Pervious     area: IAper= 8.00:SLPP= .50:LGP=  10.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI= .50:LGI= 100.:MNI=.013:SCI=   .0]
#-----------------|-------------------------------------------------------|
#-----------------|----- INTERSECTION AREA (TO NE POND - PHASE 1) --------|
#-----------------|-------------------------------------------------------|
 001:0006---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD       04:INT_AREA        .79      .032 No_date   12:13   16.08
      [XIMP=.56:TIMP=.70]
      [LOSS= 2 :CN= 84.0]
      [Pervious     area: IAper= 8.00:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI= .50:LGI= 110.:MNI=.013:SCI=   .0]
#-----------------|-------------------------------------------------------|
#----------------------- TOTAL AREA CONTRIBUTING TO NE POND (PHASE 1) ----|
#-----------------|-------------------------------------------------------|
 001:0007---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD              01:WEST_PRE      11.10      .061 No_date   12:37    4.42
                        + 02:NORTH          1.01      .049 No_date   12:12   17.52
                        + 03:SOUTH           .57      .034 No_date   12:13   20.04
                        + 04:INT_AREA        .79      .032 No_date   12:13   16.08
      [DT= 1.00]  SUM=  05:TO_POND         13.47      .134 No_date   12:13    6.75
#-----------------|-------------------------------------------------------|
#------------------------------ NE SWM POND (PHASE 1) --------------------|
#-----------------|-------------------------------------------------------|
 001:0008---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ROUTE RESERVOIR -> 05:TO_POND         13.47      .134 No_date   12:13    6.75
      [RDT= 1.00] out<- 06:NE_Pond         13.47      .031 No_date   13:34    6.75
             overflow <= 09:OVF              .00      .000 No_date    0:00     .00
     {MxStoUsed=.3519E-01, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs
#-----------------|-------------------------------------------------------|
#---------------------------------- R4 -----------------------------------|
#-----------------|-------------------------------------------------------|
 001:0009---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     DESIGN STANDHYD      02:R4              .48      .022 No_date   12:12   17.99
      [XIMP=.56:TIMP=.70]
      [SLP= .50:DT= 1.00]
      [LOSS= 2 :CN= 84.0]
#-----------------|-------------------------------------------------------|
 001:0010---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ROUTE RESERVOIR -> 02:R4              .48      .022 No_date   12:12   17.99
      [RDT= 1.00] out<- 04:StR4            .48      .005 No_date   12:39   17.99
             overflow <= 09:OVF              .00      .000 No_date    0:00     .00
     {MxStoUsed=.2946E-02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs
#-----------------|-------------------------------------------------------|
#------------------------- DISHARGE TO HIGH STREET (PHASE 1) -------------|
#-----------------|-------------------------------------------------------|
 001:0011---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD              04:StR4            .48      .005 No_date   12:39   17.99
                        + 06:NE_Pond       13.47      .031 No_date   13:34    6.75
      [DT= 1.00]  SUM=  07:P1_HIGH         13.95      .035 No_date   13:26    7.13
#-----------------|-------------------------------------------------------|
#**************************************************************************
#**************************** 24 hour SCS 5-year **************************
#**************************************************************************
 001:0012------------------------------------------------------------------
     MASS STORM
      Filename = C:\SWMHYMO\THIRDH~1\PHASE1~1\SCS24HII.mst
      Comment  = 24 hour SCS II storm mass curve
      [SDT= 1.00:SDUR=  24.00:PTOT=  62.40]
#-----------------|-------------------------------------------------------|
#-----------------|--------- AREA WEST OF INTERSECTION (10HA) ------------|
#-----------------|-------------------------------------------------------|
 001:0013---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD         01:WEST_PRE      11.10      .504 No_date   12:31   28.79
      [CN= 84.0: N= 3.00]
      [Tp=   .41:DT= 1.00]
#-----------------|-------------------------------------------------------|
#-----------------|--------- AREA NORTH OF POND (&INC POND)---------------|
#-----------------|-------------------------------------------------------|
 001:0014---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD       02:NORTH          1.01      .148 No_date   12:12   52.23
      [XIMP=.62:TIMP=.78]
      [LOSS= 2 :CN= 84.0]
      [Pervious     area: IAper= 8.00:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI= .50:LGI=  60.:MNI=.013:SCI=   .0]
#-----------------|-------------------------------------------------------|
#-----------------|---------------- AREA SOUTH OF POND -------------------|
#-----------------|-------------------------------------------------------|
 001:0015---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD       03:SOUTH           .57      .099 No_date   12:12   56.41
      [XIMP=.72:TIMP=.90]
      [LOSS= 2 :CN= 84.0]
      [Pervious     area: IAper= 8.00:SLPP= .50:LGP=  10.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI= .50:LGI= 100.:MNI=.013:SCI=   .0]
#-----------------|-------------------------------------------------------|
#-----------------|----- INTERSECTION AREA (TO NE POND - PHASE 1) --------|
#-----------------|-------------------------------------------------------|
 001:0016---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD       04:INT_AREA        .79      .101 No_date   12:12   49.69
      [XIMP=.56:TIMP=.70]
      [LOSS= 2 :CN= 84.0]
      [Pervious     area: IAper= 8.00:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI= .50:LGI= 110.:MNI=.013:SCI=   .0]
#-----------------|-------------------------------------------------------|
#----------------------- TOTAL AREA CONTRIBUTING TO NE POND (PHASE 1) ----|
#-----------------|-------------------------------------------------------|
 001:0017---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD              01:WEST_PRE      11.10      .504 No_date   12:31   28.79
                        + 02:NORTH          1.01      .148 No_date   12:12   52.23
                        + 03:SOUTH           .57      .099 No_date   12:12   56.41
                        + 04:INT_AREA        .79      .101 No_date   12:12   49.69
      [DT= 1.00]  SUM=  05:TO_POND         13.47      .625 No_date   12:13   32.94
#-----------------|-------------------------------------------------------|
#------------------------------ NE SWM POND (PHASE 1) --------------------|
#-----------------|-------------------------------------------------------|
 001:0018---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ROUTE RESERVOIR -> 05:TO_POND         13.47      .625 No_date   12:13   32.94
      [RDT= 1.00] out<- 06:NE_Pond         13.47      .076 No_date   14:33   32.94
             overflow <= 09:OVF              .00      .000 No_date    0:00     .00
     {MxStoUsed=.2389E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs
#-----------------|-------------------------------------------------------|
#---------------------------------- R4 -----------------------------------|
#-----------------|-------------------------------------------------------|
 001:0019---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     DESIGN STANDHYD      02:R4              .48      .066 No_date   12:12   52.06
      [XIMP=.56:TIMP=.70]
      [SLP= .50:DT= 1.00]
      [LOSS= 2 :CN= 84.0]
#-----------------|-------------------------------------------------------|
 001:0020---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ROUTE RESERVOIR -> 02:R4              .48      .066 No_date   12:12   52.06
      [RDT= 1.00] out<- 04:StR4            .48      .016 No_date   12:37   52.06
             overflow <= 09:OVF              .00      .000 No_date    0:00     .00
     {MxStoUsed=.9165E-02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs
#-----------------|-------------------------------------------------------|
#------------------------- DISHARGE TO HIGH STREET (PHASE 1) -------------|
#-----------------|-------------------------------------------------------|
 001:0021---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD              04:StR4            .48      .016 No_date   12:37   52.06
                        + 06:NE_Pond       13.47      .076 No_date   14:33   32.94
      [DT= 1.00]  SUM=  07:P1_HIGH         13.95      .088 No_date   13:09   33.60
#-----------------|-------------------------------------------------------|
#**************************************************************************
#*************************** 24 hour SCS 25-year **************************
#**************************************************************************
 001:0022------------------------------------------------------------------
     MASS STORM
      Filename = C:\SWMHYMO\THIRDH~1\PHASE1~1\SCS24HII.mst
      Comment  = 24 hour SCS II storm mass curve
      [SDT= 1.00:SDUR=  24.00:PTOT=  86.40]
#-----------------|-------------------------------------------------------|
#-----------------|--------- AREA WEST OF INTERSECTION (10HA) ------------|
#-----------------|-------------------------------------------------------|
 001:0023---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD         01:WEST_PRE      11.10      .860 No_date   12:31   48.48
      [CN= 84.0: N= 3.00]
      [Tp=   .41:DT= 1.00]
#-----------------|-------------------------------------------------------|
#-----------------|--------- AREA NORTH OF POND (&INC POND)---------------|
#-----------------|-------------------------------------------------------|
 001:0024---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD       02:NORTH          1.01      .218 No_date   12:12   75.47
      [XIMP=.62:TIMP=.78]
```

```
          [LOSS= 2 :CN= 84.0]
          [Pervious     area: IAper= 8.00:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
          [Impervious   area: IAimp= 2.00:SLPI= .50:LGI=  60.:MNI=.013:SCI=   .0]
#-----------------|----------------------------------------------------------|
#-----------------|---------------- AREA SOUTH OF POND ------------------------|
#-----------------|----------------------------------------------------------|
 001:0025---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
      CALIB STANDHYD      03:SOUTH          .57      .143 No_date   12:12   80.15
          [XIMP=.72:TIMP=.90]
          [LOSS= 2 :CN= 84.0]
          [Pervious     area: IAper= 8.00:SLPP= .50:LGP=  10.:MNP=.250:SCP=   .0]
          [Impervious   area: IAimp= 2.00:SLPI= .50:LGI= 100.:MNI=.013:SCI=   .0]
#-----------------|----------------------------------------------------------|
#-----------------|----- INTERSECTION AREA (TO NE POND - PHASE 1) ------------|
#-----------------|----------------------------------------------------------|
 001:0026---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
      CALIB STANDHYD      04:INT_AREA       .79      .153 No_date   12:12   72.57
          [XIMP=.56:TIMP=.70]
          [LOSS= 2 :CN= 84.0]
          [Pervious     area: IAper= 8.00:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
          [Impervious   area: IAimp= 2.00:SLPI= .50:LGI= 110.:MNI=.013:SCI=   .0]
#-----------------|----------------------------------------------------------|
#----------------------- TOTAL AREA CONTRIBUTING TO NE POND (PHASE 1) --------|
#-----------------|----------------------------------------------------------|
 001:0027---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
      ADD HYD             01:WEST_PRE     11.10      .860 No_date   12:31   48.48
                        + 02:NORTH         1.01      .218 No_date   12:12   75.47
                        + 03:SOUTH          .57      .143 No_date   12:12   80.15
                        + 04:INT_AREA       .79      .153 No_date   12:12   72.57
          [DT= 1.00]  SUM= 05:TO_POND     13.47     1.002 No_date   12:13   53.26
#-----------------|----------------------------------------------------------|
#-------------------------------- NE SWM POND (PHASE 1) ----------------------|
#-----------------|----------------------------------------------------------|
 001:0028---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
      ROUTE RESERVOIR -> 05:TO_POND       13.47     1.002 No_date   12:13   53.26
          [RDT= 1.00] out<- 06:NE_Pond    13.47      .084 No_date   15:17   53.26
                 overflow <= 09:OVF         .00      .000 No_date    0:00     .00
       {MxStoUsed=.4306E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs
#-----------------|----------------------------------------------------------|
#-------------------------------------------- R4 -----------------------------|
#-----------------|----------------------------------------------------------|
 001:0029---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
      DESIGN STANDHYD     02:R4             .48      .099 No_date   12:12   75.03
          [XIMP=.56:TIMP=.70]
          [SLP= .50:DT= 1.00]
          [LOSS= 2 :CN= 84.0]
#-----------------|----------------------------------------------------------|
 001:0030---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
      ROUTE RESERVOIR -> 02:R4              .48      .099 No_date   12:12   75.03
          [RDT= 1.00] out<- 04:StR4         .48      .024 No_date   12:34   75.03
                 overflow <= 09:OVF         .00      .000 No_date    0:00     .00
       {MxStoUsed=.1350E-01, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs
#-----------------|----------------------------------------------------------|
#-------------------------------- DISHARGE TO HIGH STREET (PHASE 1) ----------|
#-----------------|----------------------------------------------------------|
 001:0031---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
      ADD HYD             04:StR4           .48      .024 No_date   12:34   75.03
                        + 06:NE_Pond      13.47      .084 No_date   15:17   53.26
          [DT= 1.00]  SUM= 07:P1_HIGH     13.95      .102 No_date   12:59   54.01
#-----------------|----------------------------------------------------------|
#******************************************************************************
#-------------------------------------- 24 hour SCS 100-year -----------------|
#******************************************************************************
#-----------------|----------------------------------------------------------|
 001:0032-----------------------------------------------------------------------
      MASS STORM
       Filename = C:\SWMHYMO\THIRDH~1\PHASE1-1\SCS24HII.MST
       Comment  = 24 hour SCS II storm mass curve
       [SDT=12.00:SDUR= 24.00:PTOT= 108.00]
#-----------------|----------------------------------------------------------|
#-----------------|---------- AREA WEST OF INTERSECTION (10HA) ---------------|
#-----------------|----------------------------------------------------------|
 001:0033---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
      CALIB NASHYD        01:WEST_PRE     11.10     1.199 No_date   12:30   67.39
          [CN= 84.0: N= 3.00]
          [Tp=  .41:DT= 1.00]
#-----------------|----------------------------------------------------------|
#-----------------|---------- AREA NORTH OF POND (&INC POND) -----------------|
#-----------------|----------------------------------------------------------|
 001:0034---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
      CALIB STANDHYD      02:NORTH         1.01      .285 No_date   12:12   96.63
          [XIMP=.62:TIMP=.78]
          [LOSS= 2 :CN= 84.0]
          [Pervious     area: IAper= 8.00:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
          [Impervious   area: IAimp= 2.00:SLPI= .50:LGI=  60.:MNI=.013:SCI=   .0]
#-----------------|----------------------------------------------------------|
#-----------------|---------------- AREA SOUTH OF POND ------------------------|
#-----------------|----------------------------------------------------------|
 001:0035---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
      CALIB STANDHYD      03:SOUTH          .57      .181 No_date   12:12  101.60
          [XIMP=.72:TIMP=.90]
          [LOSS= 2 :CN= 84.0]
          [Pervious     area: IAper= 8.00:SLPP= .50:LGP=  10.:MNP=.250:SCP=   .0]
          [Impervious   area: IAimp= 2.00:SLPI= .50:LGI= 100.:MNI=.013:SCI=   .0]
#-----------------|----------------------------------------------------------|
#-----------------|----- INTERSECTION AREA (TO NE POND - PHASE 1) ------------|
#-----------------|----------------------------------------------------------|
 001:0036---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
      CALIB STANDHYD      04:INT_AREA       .79      .204 No_date   12:12   93.50
          [XIMP=.56:TIMP=.70]
          [LOSS= 2 :CN= 84.0]
          [Pervious     area: IAper= 8.00:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
          [Impervious   area: IAimp= 2.00:SLPI= .50:LGI= 110.:MNI=.013:SCI=   .0]
#-----------------|----------------------------------------------------------|
#----------------------- TOTAL AREA CONTRIBUTING TO NE POND (PHASE 1) --------|
#-----------------|----------------------------------------------------------|
 001:0037---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
      ADD HYD             01:WEST_PRE     11.10     1.199 No_date   12:30   67.39
                        + 02:NORTH         1.01      .285 No_date   12:12   96.63
                        + 03:SOUTH          .57      .181 No_date   12:12  101.60
                        + 04:INT_AREA       .79      .204 No_date   12:12   93.50
          [DT= 1.00]  SUM= 05:TO_POND     13.47     1.372 No_date   12:25   72.56
#-----------------|----------------------------------------------------------|
#-------------------------------- NE SWM POND (PHASE 1) ----------------------|
#-----------------|----------------------------------------------------------|
 001:0038---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
      ROUTE RESERVOIR -> 05:TO_POND       13.47     1.372 No_date   12:25   72.56
          [RDT= 1.00] out<- 06:NE_Pond    13.47      .091 No_date   16:14   72.56
                 overflow <= 09:OVF         .00      .000 No_date    0:00     .00
       {MxStoUsed=.6212E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs
#-----------------|----------------------------------------------------------|
#-------------------------------------------- R4 -----------------------------|
#-----------------|----------------------------------------------------------|
 001:0039---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
      DESIGN STANDHYD     02:R4             .48      .129 No_date   12:12   96.01
          [XIMP=.56:TIMP=.70]
          [SLP= .50:DT= 1.00]
          [LOSS= 2 :CN= 84.0]
#-----------------|----------------------------------------------------------|
 001:0040---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
      ROUTE RESERVOIR -> 02:R4              .48      .129 No_date   12:12   96.01
          [RDT= 1.00] out<- 04:StR4         .48      .031 No_date   12:33   96.01
                 overflow <= 09:OVF         .00      .000 No_date    0:00     .00
       {MxStoUsed=.1745E-01, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs
#-----------------|----------------------------------------------------------|
#-------------------------------- DISHARGE TO HIGH STREET (PHASE 1) ----------|
#-----------------|----------------------------------------------------------|
 001:0041---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
      ADD HYD             04:StR4           .48      .031 No_date   12:33   96.01
                        + 06:NE_Pond      13.47      .091 No_date   16:14   72.56
          [DT= 1.00]  SUM= 07:P1_HIGH     13.95      .114 No_date   13:01   73.37
#-----------------|----------------------------------------------------------|
#******************************************************************************
#----------------------------------------- REGIONAL EVENT --------------------|
#******************************************************************************
#-----------------|----------------------------------------------------------|
 001:0042-----------------------------------------------------------------------
      READ STORM
       Filename = tim.STM
       Comment  =
       [SDT=60.00:SDUR= 12.00:PTOT= 193.00]
#-----------------|----------------------------------------------------------|
#-----------------|---------- AREA WEST OF INTERSECTION (10HA) ---------------|
#-----------------|----------------------------------------------------------|
 001:0043---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
      CALIB NASHYD        01:WEST_PRE     11.10     1.087 No_date    7:06  146.65
          [CN= 84.0: N= 3.00]
          [Tp=  .41:DT= 1.00]
#-----------------|----------------------------------------------------------|
#-----------------|---------- AREA NORTH OF POND (&INC POND) -----------------|
#-----------------|----------------------------------------------------------|
 001:0044---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
      CALIB STANDHYD      02:NORTH         1.01      .117 No_date    7:00  180.73
          [XIMP=.62:TIMP=.78]
          [LOSS= 2 :CN= 84.0]
          [Pervious     area: IAper= 8.00:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
          [Impervious   area: IAimp= 2.00:SLPI= .50:LGI=  60.:MNI=.013:SCI=   .0]
#-----------------|----------------------------------------------------------|
#-----------------|---------------- AREA SOUTH OF POND ------------------------|
#-----------------|----------------------------------------------------------|
 001:0045---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
      CALIB STANDHYD      03:SOUTH          .57      .068 No_date    7:00  186.32
          [XIMP=.72:TIMP=.90]
          [LOSS= 2 :CN= 84.0]
          [Pervious     area: IAper= 8.00:SLPP= .50:LGP=  10.:MNP=.250:SCP=   .0]
          [Impervious   area: IAimp= 2.00:SLPI= .50:LGI= 100.:MNI=.013:SCI=   .0]
#-----------------|----------------------------------------------------------|
#-----------------|----- INTERSECTION AREA (TO NE POND - PHASE 1) ------------|
#-----------------|----------------------------------------------------------|
 001:0046---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
      CALIB STANDHYD      04:INT_AREA       .79      .090 No_date    7:00  177.14
          [XIMP=.56:TIMP=.70]
          [LOSS= 2 :CN= 84.0]
          [Pervious     area: IAper= 8.00:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
          [Impervious   area: IAimp= 2.00:SLPI= .50:LGI= 110.:MNI=.013:SCI=   .0]
#-----------------|----------------------------------------------------------|
#----------------------- TOTAL AREA CONTRIBUTING TO NE POND (PHASE 1) --------|
#-----------------|----------------------------------------------------------|
 001:0047---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
      ADD HYD             01:WEST_PRE     11.10     1.087 No_date    7:06  146.65
                        + 02:NORTH         1.01      .117 No_date    7:00  180.73
                        + 03:SOUTH          .57      .068 No_date    7:00  186.32
                        + 04:INT_AREA       .79      .090 No_date    7:00  177.14
          [DT= 1.00]  SUM= 05:TO_POND     13.47     1.341 No_date    7:01  152.67
#-----------------|----------------------------------------------------------|
#-------------------------------- NE SWM POND (PHASE 1) ----------------------|
#-----------------|----------------------------------------------------------|
 001:0048---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
      ROUTE RESERVOIR -> 05:TO_POND       13.47     1.341 No_date    7:01  152.67
          [RDT= 1.00] out<- 06:NE_Pond    13.47      .115 No_date   12:34  152.67
                 overflow <= 09:OVF         .00      .000 No_date    0:00     .00
       {MxStoUsed=.1673E+01, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs
#-----------------|----------------------------------------------------------|
#-------------------------------------------- R4 -----------------------------|
#-----------------|----------------------------------------------------------|
 001:0049---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
      DESIGN STANDHYD     02:R4             .48      .055 No_date    7:00  179.72
          [XIMP=.56:TIMP=.70]
          [SLP= .50:DT= 1.00]
          [LOSS= 2 :CN= 84.0]
#-----------------|----------------------------------------------------------|
 001:0050---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
      ROUTE RESERVOIR -> 02:R4              .48      .055 No_date    7:00  179.72
          [RDT= 1.00] out<- 04:StR4         .48      .033 No_date    7:19  179.72
                 overflow <= 09:OVF         .00      .000 No_date    0:00     .00
       {MxStoUsed=.1862E-01, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs
#-----------------|----------------------------------------------------------|
#-------------------------------- DISHARGE TO HIGH STREET (PHASE 1) ----------|
#-----------------|----------------------------------------------------------|
 001:0051---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
      ADD HYD             04:StR4           .48      .033 No_date    7:19  179.72
                        + 06:NE_Pond      13.47      .115 No_date   12:34  152.67
          [DT= 1.00]  SUM= 07:P1_HIGH     13.95      .138 No_date    9:07  153.60
#-----------------|----------------------------------------------------------|
 001:0052-----------------------------------------------------------------------
      FINISH
--------------------------------------------------------------------------------
********************************************************************************
     WARNINGS / ERRORS / NOTES
     -------------------------
   Simulation ended on 2015-04-09     at 09:27:06
================================================================================
```

UNCONTROLLED


```
00001> 2     Metric units
00002> *#*************************************************************************
00003> *#  Project Name: [West End Commercial, Collingwood]    Project Number: [183-269
00004> *#  Date        : April 9, 2015
00005> *#  Modeller    : [T. MacDougall]
00006> *#  Company     : CF Crozier & Associates Inc.
00007> *#  License #   : 3737016
00008> *#*************************************************************************
00009> *#   Interim Condition - NE Pond & Block 1 Ponding Only
00010> *#
00011> *#   Rainfall Data:  Storms are the SCS Volumes from MTO Design Chart 1.01(e)
00012> *#   District 5: Owen Sound, Basins West of and including Collingwood.
00013> *#-----------------|-------------------------------------------------------|
00014> START               TZERO=[0.0],  METOUT=[2],  NSTORM=[0],  NRUN=[0]
00015> *%                   [  ] <--storm filename, one per line for NSTORM time
00016> *#-----------------|-------------------------------------------------------|
00017> *#*************************************************************************
00018> *#                                  25mm Event
00019> *#*************************************************************************
00020> *#-----------------|-------------------------------------------------------|
00021> CHICAGO STORM       IUNITS=[2],  TD=[4](hrs), TPRAT=[0.333],  CSDT=[5](min),
00022>                     ICASEcs=[1],
00023>                      A=[568.700],  B=[6.662], and C=[0.819],
00024> *#-----------------|-------------------------------------------------------|
00025> *#-----------------|--------- AREA WEST OF INTERSECTION (10HA) ---------------|
00026> *#-----------------|-------------------------------------------------------|
00027> CALIB NASHYD        ID=[1], NHYD=["WEST_PRE"], DT=[1]min, AREA=[11.1](ha),
00028>                     DWF=[0](cms),  CN/C=[84], IA=[8](mm),
00029>                     N=[3], TP=[0.41]hrs,
00030>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00031> *#-----------------|-------------------------------------------------------|
00032> *#-----------------|--------- AREA NORTH OF POND (&INC POND)-----------------|
00033> *#-----------------|-------------------------------------------------------|
00034> CALIB STANDHYD      ID=[2], NHYD=["NORTH"], DT=[1](min), AREA=[1.01](ha),
00035>                     XIMP=[0.62], TIMP=[0.78], DWF=[0](cms), LOSS=[2],
00036>                     SCS curve number CN=[84],
00037>                     Pervious   surfaces: IAper=[8](mm), SLPP=[0.5](%),
00038>                                          LGP=[40](m), MNP=[0.25], SCP=[0](min),
00039>                     Impervious surfaces: IAimp=[2](mm), SLPI=[0.5](%),
00040>                                          LGI=[60](m), MNI=[0.013], SCI=[0](min),
00041>                     RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
00042> *#-----------------|-------------------------------------------------------|
00043> *#-----------------|---------- AREA SOUTH OF POND ------------------------|
00044> *#-----------------|-------------------------------------------------------|
00045> CALIB STANDHYD      ID=[3], NHYD=["SOUTH"], DT=[1](min), AREA=[0.57](ha),
00046>                     XIMP=[0.72], TIMP=[0.9], DWF=[0](cms), LOSS=[2],
00047>                     SCS curve number CN=[84],
00048>                     Pervious   surfaces: IAper=[8](mm), SLPP=[0.5](%),
00049>                                          LGP=[10](m), MNP=[0.25], SCP=[0](min),
00050>                     Impervious surfaces: IAimp=[2](mm), SLPI=[0.5](%),
00051>                                          LGI=[100](m), MNI=[0.013], SCI=[0](min)
00052>                     RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
00053> *#-----------------|-------------------------------------------------------|
00054> *#-----------------|----- INTERSECTION AREA (TO NE POND - PHASE 1) ---------|
00055> *#-----------------|-------------------------------------------------------|
00056> CALIB STANDHYD      ID=[4], NHYD=["INT_AREA"], DT=[1](min), AREA=[0.79](ha),
00057>                     XIMP=[0.56], TIMP=[0.70], DWF=[0](cms), LOSS=[2],
00058>                     SCS curve number CN=[84],
00059>                     Pervious   surfaces: IAper=[8](mm), SLPP=[0.5](%),
00060>                                          LGP=[40](m), MNP=[0.25], SCP=[0](min),
00061>                     Impervious surfaces: IAimp=[2.0](mm), SLPI=[0.5](%),
00062>                                          LGI=[110](m), MNI=[0.013], SCI=[0](min)
00063>                     RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
00064> *#-----------------|-------------------------------------------------------|
00065> *#-----------------|---------- TOTAL AREA CONTRIBUTING TO NE POND (PHASE 1) --------|
00066> *#-----------------|-------------------------------------------------------|
00067> ADD HYD             IDsum=[5], NHYD=["TO_POND"], IDs to add=[1+2+3+4]
00068> *#-----------------|-------------------------------------------------------|
00069> *#-----------------|------------------ R4 ----------------------------------|
00070> *#-----------------|-------------------------------------------------------|
00071> DESIGN STANDHYD     ID=[2], NHYD=["R4"], DT=[1]min, AREA=[0.48](ha),
00072>                     XIMP=[0.56], TIMP=[0.70], DWF=[0](cms), LOSS=[2], CN=[84],
00073>                     SLOPE=[0.5](%), RAINFALL=[ ,  ,  ,  , ](mm/hr), END=-1
00074> *#-----------------|-------------------------------------------------------|
00075> *#-----------------|---------- DISHARGE TO HIGH STREET (PHASE 1) ----------|
00076> *#-----------------|-------------------------------------------------------|
00077> ADD HYD             IDsum=[7], NHYD=["P1_HIGH"], IDs to add=[5+2]
00078> *#-----------------|-------------------------------------------------------|
00079> *#*************************************************************************
00080> *#********************** 4 hour Chicago 5-year ***************************
00081> *#*************************************************************************
00082> *#-----------------|-------------------------------------------------------|
00083> CHICAGO STORM       IUNITS=[2],  TD=[4](hrs), TPRAT=[0.333],  CSDT=[5](min),
00084>                     ICASEcs=[2],
00085>                     Enter ordinates of IDF curve below, at least seven points
00086>                         TIME (min)     Intensity(mm/hr)
00087>                           [5]          [130]
00088>                           [10]         [90]
00089>                           [15]         [77]
00090>                           [30]         [50]
00091>                           [60]         [33]
00092>                           [120]        [21]
00093>                           [360]        [8.8]
00094>                           [720]        [4.7]
00095>                           [1440]       [2.6]
00096>                             -1           -1
00097> *#-----------------|-------------------------------------------------------|
00098> *#-----------------|--------- AREA WEST OF INTERSECTION (10HA) ---------------|
00099> *#-----------------|-------------------------------------------------------|
00100> CALIB NASHYD        ID=[1], NHYD=["WEST_PRE"], DT=[1]min, AREA=[11.1](ha),
00101>                     DWF=[0](cms),  CN/C=[84], IA=[8](mm),
00102>                     N=[3], TP=[0.41]hrs,
00103>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00104> *#-----------------|-------------------------------------------------------|
00105> *#-----------------|--------- AREA NORTH OF POND (&INC POND)-----------------|
00106> *#-----------------|-------------------------------------------------------|
00107> CALIB STANDHYD      ID=[2], NHYD=["NORTH"], DT=[1](min), AREA=[1.01](ha),
00108>                     XIMP=[0.62], TIMP=[0.78], DWF=[0](cms), LOSS=[2],
00109>                     SCS curve number CN=[84],
00110>                     Pervious   surfaces: IAper=[8](mm), SLPP=[0.5](%),
00111>                                          LGP=[40](m), MNP=[0.25], SCP=[0](min),
00112>                     Impervious surfaces: IAimp=[2](mm), SLPI=[0.5](%),
00113>                                          LGI=[60](m), MNI=[0.013], SCI=[0](min),
00114>                     RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
00115> *#-----------------|-------------------------------------------------------|
00116> *#-----------------|---------- AREA SOUTH OF POND ------------------------|
00117> *#-----------------|-------------------------------------------------------|
00118> CALIB STANDHYD      ID=[3], NHYD=["SOUTH"], DT=[1](min), AREA=[0.57](ha),
00119>                     XIMP=[0.72], TIMP=[0.9], DWF=[0](cms), LOSS=[2],
00120>                     SCS curve number CN=[84],
00121>                     Pervious   surfaces: IAper=[8](mm), SLPP=[0.5](%),
00122>                                          LGP=[10](m), MNP=[0.25], SCP=[0](min),
00123>                     Impervious surfaces: IAimp=[2](mm), SLPI=[0.5](%),
00124>                                          LGI=[100](m), MNI=[0.013], SCI=[0](min)
00125>                     RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
00126> *#-----------------|-------------------------------------------------------|
00127> *#-----------------|----- INTERSECTION AREA (TO NE POND - PHASE 1) ---------|
00128> *#-----------------|-------------------------------------------------------|
00129> CALIB STANDHYD      ID=[4], NHYD=["INT_AREA"], DT=[1](min), AREA=[0.79](ha),
00130>                     XIMP=[0.56], TIMP=[0.70], DWF=[0](cms), LOSS=[2],
00131>                     SCS curve number CN=[84],
00132>                     Pervious   surfaces: IAper=[8](mm), SLPP=[0.5](%),
00133>                                          LGP=[40](m), MNP=[0.25], SCP=[0](min),
00134>                     Impervious surfaces: IAimp=[2.0](mm), SLPI=[0.5](%),
00135>                                          LGI=[110](m), MNI=[0.013], SCI=[0](min)
00136>                     RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
00137> *#-----------------|-------------------------------------------------------|
00138> *#-----------------|---------- TOTAL AREA CONTRIBUTING TO NE POND (PHASE 1) --------|
00139> *#-----------------|-------------------------------------------------------|
00140> ADD HYD             IDsum=[5], NHYD=["TO_POND"], IDs to add=[1+2+3+4]
00141> *#-----------------|-------------------------------------------------------|
00142> *#-----------------|------------------ R4 ----------------------------------|
00143> *#-----------------|-------------------------------------------------------|
00144> DESIGN STANDHYD     ID=[2], NHYD=["R4"], DT=[1]min, AREA=[0.48](ha),
00145>                     XIMP=[0.56], TIMP=[0.70], DWF=[0](cms), LOSS=[2], CN=[84],
00146>                     SLOPE=[0.5](%), RAINFALL=[ ,  ,  ,  , ](mm/hr), END=-1
00147> *#-----------------|-------------------------------------------------------|
00148> *#-----------------|---------- DISHARGE TO HIGH STREET (PHASE 1) ----------|
00149> *#-----------------|-------------------------------------------------------|
00150> ADD HYD             IDsum=[7], NHYD=["P1_HIGH"], IDs to add=[5+2]
00151> *#-----------------|-------------------------------------------------------|
00152> *#*************************************************************************
00153> *#********************** 4 hour Chicago 25-year **************************
00154> *#*************************************************************************
00155> *#-----------------|-------------------------------------------------------|
00156> CHICAGO STORM       IUNITS=[2],  TD=[4](hrs), TPRAT=[0.333],  CSDT=[5](min),
00157>                     ICASEcs=[2],
00158>                     Enter ordinates of IDF curve below, at least seven points
00159>                         TIME (min)     Intensity(mm/hr)
00160>                           [5]          [180]
00161>                           [10]         [120]
00162>                           [15]         [105]
00163>                           [30]         [67]
00164>                           [60]         [46]
00165>                           [120]        [28]
00166>                           [360]        [13]
00167>                           [720]        [6.5]
00168>                           [1440]       [3.6]
00169>                             -1           -1
00170> *#-----------------|-------------------------------------------------------|
00171> *#-----------------|--------- AREA WEST OF INTERSECTION (10HA) ---------------|
00172> *#-----------------|-------------------------------------------------------|
00173> CALIB NASHYD        ID=[1], NHYD=["WEST_PRE"], DT=[1]min, AREA=[11.1](ha),
00174>                     DWF=[0](cms),  CN/C=[84], IA=[8](mm),
00175>                     N=[3], TP=[0.41]hrs,
00176>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00177> *#-----------------|-------------------------------------------------------|
00178> *#-----------------|--------- AREA NORTH OF POND (&INC POND)-----------------|
00179> *#-----------------|-------------------------------------------------------|
00180> CALIB STANDHYD      ID=[2], NHYD=["NORTH"], DT=[1](min), AREA=[1.01](ha),
00181>                     XIMP=[0.62], TIMP=[0.78], DWF=[0](cms), LOSS=[2],
00182>                     SCS curve number CN=[84],
00183>                     Pervious   surfaces: IAper=[8](mm), SLPP=[0.5](%),
00184>                                          LGP=[40](m), MNP=[0.25], SCP=[0](min),
00185>                     Impervious surfaces: IAimp=[2](mm), SLPI=[0.5](%),
00186>                                          LGI=[60](m), MNI=[0.013], SCI=[0](min),
00187>                     RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
00188> *#-----------------|-------------------------------------------------------|
00189> *#-----------------|---------- AREA SOUTH OF POND ------------------------|
00190> *#-----------------|-------------------------------------------------------|
00191> CALIB STANDHYD      ID=[3], NHYD=["SOUTH"], DT=[1](min), AREA=[0.57](ha),
00192>                     XIMP=[0.72], TIMP=[0.9], DWF=[0](cms), LOSS=[2],
00193>                     SCS curve number CN=[84],
00194>                     Pervious   surfaces: IAper=[8](mm), SLPP=[0.5](%),
00195>                                          LGP=[10](m), MNP=[0.25], SCP=[0](min),
00196>                     Impervious surfaces: IAimp=[2](mm), SLPI=[0.5](%),
00197>                                          LGI=[100](m), MNI=[0.013], SCI=[0](min)
00198>                     RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
00199> *#-----------------|-------------------------------------------------------|
00200> *#-----------------|----- INTERSECTION AREA (TO NE POND - PHASE 1) ---------|
00201> *#-----------------|-------------------------------------------------------|
00202> CALIB STANDHYD      ID=[4], NHYD=["INT_AREA"], DT=[1](min), AREA=[0.79](ha),
00203>                     XIMP=[0.56], TIMP=[0.70], DWF=[0](cms), LOSS=[2],
00204>                     SCS curve number CN=[84],
00205>                     Pervious   surfaces: IAper=[8](mm), SLPP=[0.5](%),
00206>                                          LGP=[40](m), MNP=[0.25], SCP=[0](min),
00207>                     Impervious surfaces: IAimp=[2.0](mm), SLPI=[0.5](%),
00208>                                          LGI=[110](m), MNI=[0.013], SCI=[0](min)
00209>                     RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
00210> *#-----------------|-------------------------------------------------------|
00211> *#-----------------|---------- TOTAL AREA CONTRIBUTING TO NE POND (PHASE 1) --------|
00212> *#-----------------|-------------------------------------------------------|
00213> ADD HYD             IDsum=[5], NHYD=["TO_POND"], IDs to add=[1+2+3+4]
00214> *#-----------------|-------------------------------------------------------|
00215> *#-----------------|------------------ R4 ----------------------------------|
00216> *#-----------------|-------------------------------------------------------|
00217> DESIGN STANDHYD     ID=[2], NHYD=["R4"], DT=[1]min, AREA=[0.48](ha),
00218>                     XIMP=[0.56], TIMP=[0.70], DWF=[0](cms), LOSS=[2], CN=[84],
00219>                     SLOPE=[0.5](%), RAINFALL=[ ,  ,  ,  , ](mm/hr), END=-1
00220> *#-----------------|-------------------------------------------------------|
00221> *#-----------------|---------- DISHARGE TO HIGH STREET (PHASE 1) ----------|
00222> *#-----------------|-------------------------------------------------------|
00223> ADD HYD             IDsum=[7], NHYD=["P1_HIGH"], IDs to add=[5+2]
00224> *#-----------------|-------------------------------------------------------|
00225> *#*************************************************************************
00226> *#---------------------------- 4 hour Chicago 100-year ----------------------|
00227> *#*************************************************************************
00228> *#-----------------|-------------------------------------------------------|
00229> CHICAGO STORM       IUNITS=[2],  TD=[4](hrs), TPRAT=[0.333],  CSDT=[5](min),
00230>                     ICASEcs=[2],
00231>                     Enter ordinates of IDF curve below, at least seven points
00232>                         TIME (min)     Intensity(mm/hr)
00233>                           [5]          [215]
00234>                           [10]         [145]
00235>                           [15]         [125]
00236>                           [30]         [82]
00237>                           [60]         [56]
00238>                           [120]        [34]
00239>                           [360]        [16]
00240>                           [720]        [8.0]
00241>                           [1440]       [4.5]
00242>                             -1           -1
00243> *#-----------------|-------------------------------------------------------|
00244> *#-----------------|--------- AREA WEST OF INTERSECTION (10HA) ---------------|
00245> *#-----------------|-------------------------------------------------------|
00246> CALIB NASHYD        ID=[1], NHYD=["WEST_PRE"], DT=[1]min, AREA=[11.1](ha),
00247>                     DWF=[0](cms),  CN/C=[84], IA=[8](mm),
00248>                     N=[3], TP=[0.41]hrs,
00249>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00250> *#-----------------|-------------------------------------------------------|
00251> *#-----------------|--------- AREA NORTH OF POND (&INC POND)-----------------|
00252> *#-----------------|-------------------------------------------------------|
00253> CALIB STANDHYD      ID=[2], NHYD=["NORTH"], DT=[1](min), AREA=[1.01](ha),
00254>                     XIMP=[0.62], TIMP=[0.78], DWF=[0](cms), LOSS=[2],
00255>                     SCS curve number CN=[84],
00256>                     Pervious   surfaces: IAper=[8](mm), SLPP=[0.5](%),
00257>                                          LGP=[40](m), MNP=[0.25], SCP=[0](min),
00258>                     Impervious surfaces: IAimp=[2](mm), SLPI=[0.5](%),
00259>                                          LGI=[60](m), MNI=[0.013], SCI=[0](min),
00260>                     RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
00261> *#-----------------|-------------------------------------------------------|
00262> *#-----------------|---------- AREA SOUTH OF POND ------------------------|
00263> *#-----------------|-------------------------------------------------------|
00264> CALIB STANDHYD      ID=[3], NHYD=["SOUTH"], DT=[1](min), AREA=[0.57](ha),
00265>                     XIMP=[0.72], TIMP=[0.9], DWF=[0](cms), LOSS=[2],
00266>                     SCS curve number CN=[84],
00267>                     Pervious   surfaces: IAper=[8](mm), SLPP=[0.5](%),
00268>                                          LGP=[10](m), MNP=[0.25], SCP=[0](min),
00269>                     Impervious surfaces: IAimp=[2](mm), SLPI=[0.5](%),
00270>                                          LGI=[100](m), MNI=[0.013], SCI=[0](min)
```

```
00271>                      RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
00272> *#-----------------|-------------------------------------------------------------|
00273> *#-----------------|----- INTERSECTION AREA (TO NE POND - PHASE 1) -------------|
00274> *#-----------------|-------------------------------------------------------------|
00275> CALIB STANDHYD      ID=[4], NHYD=["INT_AREA"], DT=[1](min), AREA=[0.79](ha),
00276>                      XIMP=[0.56], TIMP=[0.70], DWF=[0](cms), LOSS=[2],
00277>                      SCS curve number CN=[84],
00278>                      Pervious   surfaces: IAper=[8](mm), SLPP=[0.5](%),
00279>                                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
00280>                      Impervious surfaces: IAimp=[2.0](mm), SLPI=[0.5](%),
00281>                                           LGI=[110](m), MNI=[0.013], SCI=[0](min)
00282>                      RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
00283> *#-----------------|-------------------------------------------------------------|
00284> *#-------------------- TOTAL AREA CONTRIBUTING TO NE POND (PHASE 1) --------|
00285> *#-----------------|-------------------------------------------------------------|
00286> ADD HYD            IDsum=[5], NHYD=["TO_POND"], IDs to add=[1+2+3+4]
00287> *#-----------------|-------------------------------------------------------------|
00288> *#------------------------------ R4 -------------------------------------------|
00289> *#-----------------|-------------------------------------------------------------|
00290> DESIGN STANDHYD     ID=[2], NHYD=["R4"], DT=[1]min, AREA=[0.40](ha),
00291>                      XIMP=[0.56], TIMP=[0.70], DWF=[0](cms), LOSS=[2], CN=[84],
00292>                      SLOPE=[0.5](%), RAINFALL=[ ,  ,  ,  , ](mm/hr), END=-1
00293> *#-----------------|-------------------------------------------------------------|
00294> *#------------------------- DISHARGE TO HIGH STREET (PHASE 1) ----------------|
00295> *#-----------------|-------------------------------------------------------------|
00296> ADD HYD            IDsum=[7], NHYD=["P1_HIGH"], IDs to add=[5+2]
00297> *#-----------------|-------------------------------------------------------------|
00298> *#*****************************************************************************
00299> *#------------------------------ REGIONAL EVENT -------------------------------|
00300> *#*****************************************************************************
00301> *#-----------------|-------------------------------------------------------------|
00302> READ STORM         STORM_FILENAME=["tim.STM"]
00303> *#-----------------|-------------------------------------------------------------|
00304> *#-------------------- AREA WEST OF INTERSECTION (10HA) ----------------------|
00305> *#-----------------|-------------------------------------------------------------|
00306> CALIB NASHYD       ID=[1], NHYD=["WEST_PRE"], DT=[1]min, AREA=[11.1](ha),
00307>                      DWF=[0](cms),  CN/C=[84], IA=[8](mm),
00308>                      N=[3], TP=[0.41]hrs,
00309>                      RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00310> *#-----------------|-------------------------------------------------------------|
00311> *#-------------------- AREA NORTH OF POND (&INC POND)-------------------------|
00312> *#-----------------|-------------------------------------------------------------|
00313> CALIB STANDHYD      ID=[2], NHYD=["NORTH"], DT=[1](min), AREA=[1.01](ha),
00314>                      XIMP=[0.62], TIMP=[0.78], DWF=[0](cms), LOSS=[2],
00315>                      SCS curve number CN=[84],
00316>                      Pervious   surfaces: IAper=[8](mm), SLPP=[0.5](%),
00317>                                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
00318>                      Impervious surfaces: IAimp=[2](mm), SLPI=[0.5](%),
00319>                                           LGI=[60](m), MNI=[0.013], SCI=[0](min),
00320>                      RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
00321> *#-----------------|-------------------------------------------------------------|
00322> *#-------------------- AREA SOUTH OF POND -------------------------------------|
00323> *#-----------------|-------------------------------------------------------------|
00324> CALIB STANDHYD      ID=[3], NHYD=["SOUTH"], DT=[1](min), AREA=[0.57](ha),
00325>                      XIMP=[0.72], TIMP=[0.9], DWF=[0](cms), LOSS=[2],
00326>                      SCS curve number CN=[84],
00327>                      Pervious   surfaces: IAper=[8](mm), SLPP=[0.5](%),
00328>                                           LGP=[10](m), MNP=[0.25], SCP=[0](min),
00329>                      Impervious surfaces: IAimp=[2](mm), SLPI=[0.5](%),
00330>                                           LGI=[100](m), MNI=[0.013], SCI=[0](min)
00331>                      RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
00332> *#-----------------|-------------------------------------------------------------|
00333> *#-----------------|----- INTERSECTION AREA (TO NE POND - PHASE 1) -------------|
00334> *#-----------------|-------------------------------------------------------------|
00335> CALIB STANDHYD      ID=[4], NHYD=["INT_AREA"], DT=[1](min), AREA=[0.79](ha),
00336>                      XIMP=[0.56], TIMP=[0.70], DWF=[0](cms), LOSS=[2],
00337>                      SCS curve number CN=[84],
00338>                      Pervious   surfaces: IAper=[8](mm), SLPP=[0.5](%),
00339>                                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
00340>                      Impervious surfaces: IAimp=[2.0](mm), SLPI=[0.5](%),
00341>                                           LGI=[110](m), MNI=[0.013], SCI=[0](min)
00342>                      RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
00343> *#-----------------|-------------------------------------------------------------|
00344> *#-------------------- TOTAL AREA CONTRIBUTING TO NE POND (PHASE 1) --------|
00345> *#-----------------|-------------------------------------------------------------|
00346> ADD HYD            IDsum=[5], NHYD=["TO_POND"], IDs to add=[1+2+3+4]
00347> *#-----------------|-------------------------------------------------------------|
00348> *#------------------------------ R4 -------------------------------------------|
00349> *#-----------------|-------------------------------------------------------------|
00350> DESIGN STANDHYD     ID=[2], NHYD=["R4"], DT=[1]min, AREA=[0.40](ha),
00351>                      XIMP=[0.56], TIMP=[0.70], DWF=[0](cms), LOSS=[2], CN=[84],
00352>                      SLOPE=[0.5](%), RAINFALL=[ ,  ,  ,  , ](mm/hr), END=-1
00353> *#-----------------|-------------------------------------------------------------|
00354> *#------------------------- DISHARGE TO HIGH STREET (PHASE 1) ----------------|
00355> *#-----------------|-------------------------------------------------------------|
00356> ADD HYD            IDsum=[7], NHYD=["P1_HIGH"], IDs to add=[5+2]
00357> *#-----------------|-------------------------------------------------------------|
00358> FINISH
00359>
```

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

  SSSSS  W   W  M   M  H   H  Y   Y  M   M   OOO       999   999   =========
  S      W W W  MM MM  H   H   Y Y   MM MM  O   O     9   9 9   9
  SSSSS  W W W  M M M  HHHHH    Y    M M M  O   O  ## 9   9 9   9  Ver  4.05
      S   W W   M   M  H   H    Y    M   M  O   O      9999  9999  Sept 2011
  SSSSS   W W   M   M  H   H    Y    M   M   OOO          9     9  =========
                                                    9   9 9   9  # 3737016
        StormWater Management HYdrologic Model        999   999   =========

**********************************************************************
***************************** SWMHYMO Ver/4.05 ***********************
*********  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   :      10          *********
*********          Max. number of rainfall points: 105408            *********
*********          Max. number of flow points    : 105408            *********
**********************************************************************

***** DESCRIPTION SUMMARY TABLE HEADERS (units depend on METOUT in START) *****
*****----------------------------------------------------------------*****
*****     ID:  Hydrograph IDentification numbers, (1-10).            *****
*****   NHYD:  Hydrograph reference numbers, (6 digits or characters). *****
*****   AREA:  Drainage area associated with hydrograph, (ac.) or (ha.). *****
***** QPEAK:  Peak flow of simulated hydrograph, (ft^3/s) or (m^3/s). *****
***** TpeakDate_hh:mm is the date and time of the peak flow.         *****
*****   R.V.:  Runoff Volume of simulated hydrograph, (in) or (mm).  *****
*****   R.C.:  Runoff Coefficient of simulated hydrograph, (ratio).  *****
*****      *:  see WARNING or NOTE message printed at end of run.    *****
*****     **:  see  ERROR  message printed at end of run.            *****
**********************************************************************
**********************************************************************

::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::

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

**********************    S U M M A R Y   O U T P U T   **********************
**********************************************************************
*         DATE: 2015-04-09     TIME: 11:40:17     RUN COUNTER: 000146    *
**********************************************************************
* Input   filename: C:\SWMHYMO\THIRDH~1\UNCONT~2\UnCHI4p1.DAT            *
* Output  filename: C:\SWMHYMO\THIRDH~1\UNCONT~2\UnCHI4p1.out            *
* Summary filename: C:\SWMHYMO\THIRDH~1\UNCONT~2\UnCHI4p1.sum            *
* User comments:                                                         *
* 1:_____________________________________________________________________*
* 2:_____________________________________________________________________*
* 3:_____________________________________________________________________*
**********************************************************************


#*********************************************************************
#  Project Name: [West End Commercial, Collingwood]    Project Number: [183-269
#  Date          : April 9, 2015
#  Modeller      : [T. MacDougall]
#  Company       : CF Crozier & Associates Inc.
#  License #     :  3737016
#*********************************************************************
#   Interim Condition - NE Pond & Block 1 Ponding Only
#
#   Rainfall Data:  Storms are the SCS Volumes from MTO Design Chart 1.01(e)
#   District 5: Owen Sound, Basins West of and including Collingwood.
#-----------------|-----------------------------------------------------|
 RUN:COMMAND#
 001:0001--------------------------------------------------------------
     START
      [TZERO =     .00 hrs on        0]
      [METOUT=   2     (1=imperial, 2=metric output)]
      [NSTORM=   0 ]
      [NRUN  =   1 ]
#-----------------|-----------------------------------------------------|
#*********************************************************************
#                               25mm Event
#*********************************************************************
#-----------------|-----------------------------------------------------|
 001:0002--------------------------------------------------------------
     CHICAGO STORM
      [SDT= 5.00:SDUR=   4.00:PTOT=  24.99]
      [A/B/C= 568.700/   6.662/    .819]
#-----------------|-----------------------------------------------------|
#-----------------|--------- AREA WEST OF INTERSECTION (10HA) ----------|
#-----------------|-----------------------------------------------------|
 001:0003---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       01:WEST_PRE      11.10     .084 No_date    2:01     4.42
      [CN= 84.0: N= 3.00]
      [Tp=   .41:DT= 1.00]
#-----------------|-----------------------------------------------------|
#-----------------|--------- AREA NORTH OF POND (&INC POND)-------------|
#-----------------|-----------------------------------------------------|
 001:0004---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD     02:NORTH          1.01     .112 No_date    1:21    17.51
      [XIMP=.62:TIMP=.78]
      [LOSS= 2 :CN= 84.0]
      [Pervious     area: IAper= 8.00:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI= .50:LGI=  60.:MNI=.013:SCI=   .0]
#-----------------|-----------------------------------------------------|
#-----------------|--------------- AREA SOUTH OF POND ------------------|
#-----------------|-----------------------------------------------------|
 001:0005---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD     03:SOUTH           .57     .070 No_date    1:22    20.03
      [XIMP=.72:TIMP=.90]
      [LOSS= 2 :CN= 84.0]
      [Pervious     area: IAper= 8.00:SLPP= .50:LGP=  10.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI= .50:LGI= 100.:MNI=.013:SCI=   .0]
#-----------------|-----------------------------------------------------|
#-----------------|----- INTERSECTION AREA (TO NE POND - PHASE 1) ------|
#-----------------|-----------------------------------------------------|
 001:0006---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD     04:INT_AREA        .79     .070 No_date    1:22    16.07
      [XIMP=.56:TIMP=.70]
      [LOSS= 2 :CN= 84.0]
      [Pervious     area: IAper= 8.00:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI= .50:LGI= 110.:MNI=.013:SCI=   .0]
#-----------------|-----------------------------------------------------|
#----------------------- TOTAL AREA CONTRIBUTING TO NE POND (PHASE 1) --|
#-----------------|-----------------------------------------------------|
 001:0007---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            01:WEST_PRE      11.10     .084 No_date    2:01     4.42
                   +    02:NORTH          1.01     .112 No_date    1:21    17.51
                   +    03:SOUTH           .57     .070 No_date    1:22    20.03
                   +    04:INT_AREA        .79     .070 No_date    1:22    16.07
      [DT= 1.00]  SUM=  05:TO_POND       13.47     .252 No_date    1:21     6.74
#-----------------|-----------------------------------------------------|
#--------------------------------- R4 ---------------------------------|
#-----------------|-----------------------------------------------------|
 001:0008---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     DESIGN STANDHYD    02:R4              .48     .051 No_date    1:20    17.98
      [XIMP=.56:TIMP=.70]
      [SLP= .50:DT= 1.00]
      [LOSS= 2 :CN= 84.0]
#-----------------|-----------------------------------------------------|
#------------------------ DISHARGE TO HIGH STREET (PHASE 1) ------------|
#-----------------|-----------------------------------------------------|
 001:0009---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            05:TO_POND       13.47     .252 No_date    1:21     6.74
                   +    02:R4              .48     .051 No_date    1:20    17.98
      [DT= 1.00]  SUM=  07:P1_HIGH       13.95     .301 No_date    1:21     7.13
#-----------------|-----------------------------------------------------|
#*********************************************************************
#*********************** 4 hour Chicago 5-year ***********************
#*********************************************************************
#-----------------|-----------------------------------------------------|
 001:0010--------------------------------------------------------------
     CHICAGO STORM
      [SDT= 5.00:SDUR=   4.00:PTOT=  46.10]
      (A/B/C=1081.402/   9.194/    .823: R=.9994)
#-----------------|-----------------------------------------------------|
#-----------------|--------- AREA WEST OF INTERSECTION (10HA) ----------|
#-----------------|-----------------------------------------------------|
 001:0011---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       01:WEST_PRE      11.10     .361 No_date    1:56    16.78
      [CN= 84.0: N= 3.00]
      [Tp=   .41:DT= 1.00]
#-----------------|-----------------------------------------------------|
#-----------------|--------- AREA NORTH OF POND (&INC POND)-------------|
#-----------------|-----------------------------------------------------|
 001:0012---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD     02:NORTH          1.01     .201 No_date    1:20    36.74
      [XIMP=.62:TIMP=.78]
      [LOSS= 2 :CN= 84.0]
      [Pervious     area: IAper= 8.00:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI= .50:LGI=  60.:MNI=.013:SCI=   .0]
#-----------------|-----------------------------------------------------|
#-----------------|--------------- AREA SOUTH OF POND ------------------|
#-----------------|-----------------------------------------------------|
 001:0013---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD     03:SOUTH           .57     .134 No_date    1:21    40.40
      [XIMP=.72:TIMP=.90]
      [LOSS= 2 :CN= 84.0]
      [Pervious     area: IAper= 8.00:SLPP= .50:LGP=  10.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI= .50:LGI= 100.:MNI=.013:SCI=   .0]
#-----------------|-----------------------------------------------------|
#-----------------|----- INTERSECTION AREA (TO NE POND - PHASE 1) ------|
#-----------------|-----------------------------------------------------|
 001:0014---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD     04:INT_AREA        .79     .127 No_date    1:21    34.56
      [XIMP=.56:TIMP=.70]
      [LOSS= 2 :CN= 84.0]
      [Pervious     area: IAper= 8.00:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI= .50:LGI= 110.:MNI=.013:SCI=   .0]
#-----------------|-----------------------------------------------------|
#----------------------- TOTAL AREA CONTRIBUTING TO NE POND (PHASE 1) --|
#-----------------|-----------------------------------------------------|
 001:0015---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            01:WEST_PRE      11.10     .361 No_date    1:56    16.78
                   +    02:NORTH          1.01     .201 No_date    1:20    36.74
                   +    03:SOUTH           .57     .134 No_date    1:21    40.40
                   +    04:INT_AREA        .79     .127 No_date    1:21    34.56
      [DT= 1.00]  SUM=  05:TO_POND       13.47     .474 No_date    1:21    20.32
#-----------------|-----------------------------------------------------|
#--------------------------------- R4 ---------------------------------|
#-----------------|-----------------------------------------------------|
 001:0016---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     DESIGN STANDHYD    02:R4              .48     .088 No_date    1:20    36.82
      [XIMP=.56:TIMP=.70]
      [SLP= .50:DT= 1.00]
      [LOSS= 2 :CN= 84.0]
#-----------------|-----------------------------------------------------|
#------------------------ DISHARGE TO HIGH STREET (PHASE 1) ------------|
#-----------------|-----------------------------------------------------|
 001:0017---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            05:TO_POND       13.47     .474 No_date    1:21    20.32
                   +    02:R4              .48     .088 No_date    1:20    36.82
      [DT= 1.00]  SUM=  07:P1_HIGH       13.95     .558 No_date    1:21    20.89
#-----------------|-----------------------------------------------------|
#*********************************************************************
#*********************** 4 hour Chicago 25-year **********************
#*********************************************************************
#-----------------|-----------------------------------------------------|
 001:0018--------------------------------------------------------------
     CHICAGO STORM
      [SDT= 5.00:SDUR=   4.00:PTOT=  63.85]
      (A/B/C=1416.634/   9.025/    .813: R=.9988)
#-----------------|-----------------------------------------------------|
#-----------------|--------- AREA WEST OF INTERSECTION (10HA) ----------|
#-----------------|-----------------------------------------------------|
 001:0019---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       01:WEST_PRE      11.10     .667 No_date    1:54    29.92
      [CN= 84.0: N= 3.00]
      [Tp=   .41:DT= 1.00]
#-----------------|-----------------------------------------------------|
#-----------------|--------- AREA NORTH OF POND (&INC POND)-------------|
#-----------------|-----------------------------------------------------|
 001:0020---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD     02:NORTH          1.01     .288 No_date    1:20    53.62
      [XIMP=.62:TIMP=.78]
      [LOSS= 2 :CN= 84.0]
      [Pervious     area: IAper= 8.00:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI= .50:LGI=  60.:MNI=.013:SCI=   .0]
#-----------------|-----------------------------------------------------|
#-----------------|--------------- AREA SOUTH OF POND ------------------|
#-----------------|-----------------------------------------------------|
 001:0021---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD     03:SOUTH           .57     .196 No_date    1:21    57.84
      [XIMP=.72:TIMP=.90]
      [LOSS= 2 :CN= 84.0]
      [Pervious     area: IAper= 8.00:SLPP= .50:LGP=  10.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI= .50:LGI= 100.:MNI=.013:SCI=   .0]
#-----------------|-----------------------------------------------------|
#-----------------|----- INTERSECTION AREA (TO NE POND - PHASE 1) ------|
#-----------------|-----------------------------------------------------|
 001:0022---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD     04:INT_AREA        .79     .186 No_date    1:21    51.05
      [XIMP=.56:TIMP=.70]
      [LOSS= 2 :CN= 84.0]
      [Pervious     area: IAper= 8.00:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI= .50:LGI= 110.:MNI=.013:SCI=   .0]
#-----------------|-----------------------------------------------------|
#----------------------- TOTAL AREA CONTRIBUTING TO NE POND (PHASE 1) --|
#-----------------|-----------------------------------------------------|
 001:0023---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            01:WEST_PRE      11.10     .667 No_date    1:54    29.92
                   +    02:NORTH          1.01     .288 No_date    1:20    53.62
                   +    03:SOUTH           .57     .196 No_date    1:21    57.84
                   +    04:INT_AREA        .79     .186 No_date    1:21    51.05
```

```
     [DT= 1.00]  SUM=  05:TO_POND       13.47      .802 No_date    1:50   34.12
#-----------------|-------------------------------------------------------|
#-------------------------------- R4 ------------------------------------|
#-----------------|-------------------------------------------------------|
 001:0024---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
    DESIGN STANDHYD     02:R4                .48      .127 No_date    1:20   53.43
     [XIMP=.56:TIMP=.70]
     [SLP= .50:DT= 1.00]
     [LOSS= 2 :CN= 84.0]
#-----------------|-------------------------------------------------------|
#------------------------- DISHARGE TO HIGH STREET (PHASE 1) ---------------|
#-----------------|-------------------------------------------------------|
 001:0025---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
    ADD HYD             05:TO_POND       13.47      .802 No_date    1:50   34.12
                     +  02:R4              .48      .127 No_date    1:20   53.43
     [DT= 1.00]  SUM=  07:P1_HIGH       13.95      .836 No_date    1:21   34.78
#-----------------|-------------------------------------------------------|
#*************************************************************************
#------------------------- 4 hour Chicago 100-year -----------------------|
#*************************************************************************
#-----------------|-------------------------------------------------------|
 001:0026------------------------------------------------------------------
    CHICAGO STORM
     [SDT= 5.00:SDUR=   4.00:PTOT=  78.22]
     [A/B/C=1660.507/   9.012/    .805: R=.9989]
#-----------------|-------------------------------------------------------|
#-----------------|--------- AREA WEST OF INTERSECTION (10HA) ---------------|
#-----------------|-------------------------------------------------------|
 001:0027---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
    CALIB NASHYD        01:WEST_PRE      11.10      .937 No_date    1:53   41.57
     [CN= 84.0: N= 3.00]
     [Tp=  .41:DT= 1.00]
#-----------------|-------------------------------------------------------|
#-----------------|--------- AREA NORTH OF POND (&INC POND)-----------------|
#-----------------|-------------------------------------------------------|
 001:0028---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
    CALIB STANDHYD      02:NORTH          1.01      .358 No_date    1:20   67.51
     [XIMP=.62:TIMP=.78]
     [LOSS= 2 :CN= 84.0]
     [Pervious    area: IAper= 8.00:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
     [Impervious  area: IAimp= 2.00:SLPI= .50:LGI=  60.:MNI=.013:SCI=   .0]
#-----------------|-------------------------------------------------------|
#-----------------|--------------- AREA SOUTH OF POND ----------------------|
#-----------------|-------------------------------------------------------|
 001:0029---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
    CALIB STANDHYD      03:SOUTH           .57      .244 No_date    1:20   72.04
     [XIMP=.72:TIMP=.90]
     [LOSS= 2 :CN= 84.0]
     [Pervious    area: IAper= 8.00:SLPP= .50:LGP=  10.:MNP=.250:SCP=   .0]
     [Impervious  area: IAimp= 2.00:SLPI= .50:LGI= 100.:MNI=.013:SCI=   .0]
#-----------------|-------------------------------------------------------|
#-----------------|----- INTERSECTION AREA (TO NE POND - PHASE 1) ------------|
#-----------------|-------------------------------------------------------|
 001:0030---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
    CALIB STANDHYD      04:INT_AREA        .79      .233 No_date    1:21   64.71
     [XIMP=.56:TIMP=.70]
     [LOSS= 2 :CN= 84.0]
     [Pervious    area: IAper= 8.00:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
     [Impervious  area: IAimp= 2.00:SLPI= .50:LGI= 110.:MNI=.013:SCI=   .0]
#-----------------|-------------------------------------------------------|
#---------------------- TOTAL AREA CONTRIBUTING TO NE POND (PHASE 1) --------|
#-----------------|-------------------------------------------------------|
 001:0031---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
    ADD HYD             01:WEST_PRE      11.10      .937 No_date    1:53   41.57
                     +  02:NORTH          1.01      .358 No_date    1:20   67.51
                     +  03:SOUTH           .57      .244 No_date    1:20   72.04
                     +  04:INT_AREA        .79      .233 No_date    1:21   64.71
     [DT= 1.00]  SUM=  05:TO_POND       13.47     1.108 No_date    1:50   46.16
#-----------------|-------------------------------------------------------|
#-------------------------------- R4 ------------------------------------|
#-----------------|-------------------------------------------------------|
 001:0032---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
    DESIGN STANDHYD     02:R4                .48      .157 No_date    1:20   67.15
     [XIMP=.56:TIMP=.70]
     [SLP= .50:DT= 1.00]
     [LOSS= 2 :CN= 84.0]
#-----------------|-------------------------------------------------------|
#------------------------- DISHARGE TO HIGH STREET (PHASE 1) ---------------|
#-----------------|-------------------------------------------------------|
 001:0033---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
    ADD HYD             05:TO_POND       13.47     1.108 No_date    1:50   46.16
                     +  02:R4              .48      .157 No_date    1:20   67.15
     [DT= 1.00]  SUM=  07:P1_HIGH       13.95     1.149 No_date    1:46   46.89
#-----------------|-------------------------------------------------------|
#*************************************************************************
#------------------------------- REGIONAL EVENT -------------------------|
#*************************************************************************
#-----------------|-------------------------------------------------------|
 001:0034------------------------------------------------------------------
    READ STORM
     Filename = tim.STM
     Comment  =
     [SDT=60.00:SDUR=  12.00:PTOT= 193.00]
#-----------------|-------------------------------------------------------|
#-----------------|--------- AREA WEST OF INTERSECTION (10HA) ---------------|
#-----------------|-------------------------------------------------------|
 001:0035---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
    CALIB NASHYD        01:WEST_PRE      11.10     1.087 No_date    7:06  146.65
     [CN= 84.0: N= 3.00]
     [Tp=  .41:DT= 1.00]
#-----------------|-------------------------------------------------------|
#-----------------|--------- AREA NORTH OF POND (&INC POND)-----------------|
#-----------------|-------------------------------------------------------|
 001:0036---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
    CALIB STANDHYD      02:NORTH          1.01      .117 No_date    7:00  180.73
     [XIMP=.62:TIMP=.78]
     [LOSS= 2 :CN= 84.0]
     [Pervious    area: IAper= 8.00:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
     [Impervious  area: IAimp= 2.00:SLPI= .50:LGI=  60.:MNI=.013:SCI=   .0]
#-----------------|-------------------------------------------------------|
#-----------------|--------------- AREA SOUTH OF POND ----------------------|
#-----------------|-------------------------------------------------------|
 001:0037---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
    CALIB STANDHYD      03:SOUTH           .57      .068 No_date    7:00  186.32
     [XIMP=.72:TIMP=.90]
     [LOSS= 2 :CN= 84.0]
     [Pervious    area: IAper= 8.00:SLPP= .50:LGP=  10.:MNP=.250:SCP=   .0]
     [Impervious  area: IAimp= 2.00:SLPI= .50:LGI= 100.:MNI=.013:SCI=   .0]
#-----------------|-------------------------------------------------------|
#-----------------|----- INTERSECTION AREA (TO NE POND - PHASE 1) ------------|
#-----------------|-------------------------------------------------------|
 001:0038---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
    CALIB STANDHYD      04:INT_AREA        .79      .090 No_date    7:00  177.14
     [XIMP=.56:TIMP=.70]
     [LOSS= 2 :CN= 84.0]
     [Pervious    area: IAper= 8.00:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
     [Impervious  area: IAimp= 2.00:SLPI= .50:LGI= 110.:MNI=.013:SCI=   .0]
#-----------------|-------------------------------------------------------|
#---------------------- TOTAL AREA CONTRIBUTING TO NE POND (PHASE 1) --------|
#-----------------|-------------------------------------------------------|
 001:0039---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
    ADD HYD             01:WEST_PRE      11.10     1.087 No_date    7:06  146.65
                     +  02:NORTH          1.01      .117 No_date    7:00  180.73
                     +  03:SOUTH           .57      .068 No_date    7:00  186.32
                     +  04:INT_AREA        .79      .090 No_date    7:00  177.14
     [DT= 1.00]  SUM=  05:TO_POND       13.47     1.341 No_date    7:01  152.67
#-----------------|-------------------------------------------------------|
#-------------------------------- R4 ------------------------------------|
#-----------------|-------------------------------------------------------|
 001:0040---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
    DESIGN STANDHYD     02:R4                .48      .055 No_date    7:00  179.72
     [XIMP=.56:TIMP=.70]
     [SLP= .50:DT= 1.00]
     [LOSS= 2 :CN= 84.0]
#-----------------|-------------------------------------------------------|
#------------------------- DISHARGE TO HIGH STREET (PHASE 1) ---------------|
#-----------------|-------------------------------------------------------|
 001:0041---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
    ADD HYD             05:TO_POND       13.47     1.341 No_date    7:01  152.67
                     +  02:R4              .48      .055 No_date    7:00  179.72
     [DT= 1.00]  SUM=  07:P1_HIGH       13.95     1.395 No_date    7:00  153.60
#-----------------|-------------------------------------------------------|
 001:0042------------------------------------------------------------------
     FINISH
---------------------------------------------------------------------------
***************************************************************************
    WARNINGS / ERRORS / NOTES
    -------------------------
  Simulation ended on 2015-04-09     at 11:40:19
===========================================================================
```

```
2     Metric units
*#*************************************************************************
*#  Project Name: [West End Commercial, Collingwood]    Project Number: [183-269
*#  Date          : April 9, 2015
*#  Modeller      : [T. MacDougall]
*#  Company       : CF Crozier & Associates Inc.
*#  License #     :  3737016
*#*************************************************************************
*#   Interim Condition - Uncontrolled
*#
*#   Rainfall Data:  Storms are the SCS Volumes from MTO Design Chart 1.01(e)
*#   District 5: Owen Sound, Basins West of and including Collingwood.
*#-----------------|-------------------------------------------------------|
START                TZERO=[0.0],  METOUT=[2],  NSTORM=[0],  NRUN=[0]
*%                    [  ] <--storm filename, one per line for NSTORM time
*#-----------------|-------------------------------------------------------|
*#*************************************************************************
*#******************************* 25mm event *******************************
*#*************************************************************************
*#-----------------|-------------------------------------------------------|
MASS STORM           PTOTAL=[25](mm), CSDT=[1](min),
                     CURVE_FILENAME=["SCS24HII.mst"]
*#-----------------|-------------------------------------------------------|
*#-----------------|--------- AREA WEST OF INTERSECTION (10HA) ---------------|
*#-----------------|-------------------------------------------------------|
CALIB NASHYD         ID=[1], NHYD=["WEST_PRE"], DT=[1]min, AREA=[11.1](ha),
                     DWF=[0](cms),  CN/C=[84], IA=[8](mm),
                     N=[3], TP=[0.41]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------|
*#-----------------|--------- AREA NORTH OF POND (&INC POND)-----------------|
*#-----------------|-------------------------------------------------------|
CALIB STANDHYD       ID=[2], NHYD=["NORTH"], DT=[1](min), AREA=[1.01](ha),
                     XIMP=[0.62], TIMP=[0.78], DWF=[0](cms), LOSS=[2],
                     SCS curve number CN=[84],
                     Pervious   surfaces: IAper=[8](mm), SLPP=[0.5](%),
                                          LGP=[40](m), MNP=[0.25], SCP=[0](min),
                     Impervious surfaces: IAimp=[2](mm), SLPI=[0.5](%),
                                          LGI=[60](m), MNI=[0.013], SCI=[0](min),
                     RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|-------------------------------------------------------|
*#-----------------|--------------- AREA SOUTH OF POND -----------------------|
*#-----------------|-------------------------------------------------------|
CALIB STANDHYD       ID=[3], NHYD=["SOUTH"], DT=[1](min), AREA=[0.57](ha),
                     XIMP=[0.72], TIMP=[0.9], DWF=[0](cms), LOSS=[2],
                     SCS curve number CN=[84],
                     Pervious   surfaces: IAper=[8](mm), SLPP=[0.5](%),
                                          LGP=[10](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
*#-----------------|-------------------------------------------------------|
*#-----------------|----- INTERSECTION AREA (TO NE POND - PHASE 1) ------------|
*#-----------------|-------------------------------------------------------|
CALIB STANDHYD       ID=[4], NHYD=["INT_AREA"], DT=[1](min), AREA=[0.79](ha),
                     XIMP=[0.56], TIMP=[0.70], DWF=[0](cms), LOSS=[2],
                     SCS curve number CN=[84],
                     Pervious   surfaces: IAper=[8](mm), SLPP=[0.5](%),
                                          LGP=[40](m), MNP=[0.25], SCP=[0](min),
                     Impervious surfaces: IAimp=[2.0](mm), SLPI=[0.5](%),
                                          LGI=[110](m), MNI=[0.013], SCI=[0](min)
                     RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|-------------------------------------------------------|
*#---------------------- TOTAL AREA CONTRIBUTING TO NE POND (PHASE 1) --------|
*#-----------------|-------------------------------------------------------|
ADD HYD              IDsum=[5], NHYD=["TO_POND"], IDs to add=[1+2+3+4]
*#-----------------|-------------------------------------------------------|
*#--------------------------------- R4 ----------------------------------------|
*#-----------------|-------------------------------------------------------|
DESIGN STANDHYD      ID=[2], NHYD=["R4"], DT=[1]min, AREA=[0.48](ha),
                     XIMP=[0.56], TIMP=[0.70], DWF=[0](cms), LOSS=[2], CN=[84],
                     SLOPE=[0.5](%), RAINFALL=[ , , , , ](mm/hr), END=-1
*#-----------------|-------------------------------------------------------|
*#---------------------- DISHARGE TO HIGH STREET (PHASE 1) -----------------|
*#-----------------|-------------------------------------------------------|
ADD HYD              IDsum=[7], NHYD=["P1_HIGH"], IDs to add=[5+2]
*#-----------------|-------------------------------------------------------|
*#*************************************************************************
*#************************** 24 hour SCS 5-year ****************************
*#*************************************************************************
*%-----------------|-------------------------------------------------------|
MASS STORM           PTOTAL=[62.4](mm), CSDT=[1](min),
                     CURVE_FILENAME=["SCS24HII.mst"]
*#-----------------|-------------------------------------------------------|
*#-----------------|--------- AREA WEST OF INTERSECTION (10HA) ---------------|
*#-----------------|-------------------------------------------------------|
CALIB NASHYD         ID=[1], NHYD=["WEST_PRE"], DT=[1]min, AREA=[11.1](ha),
                     DWF=[0](cms),  CN/C=[84], IA=[8](mm),
                     N=[3], TP=[0.41]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------|
*#-----------------|--------- AREA NORTH OF POND (&INC POND)-----------------|
*#-----------------|-------------------------------------------------------|
CALIB STANDHYD       ID=[2], NHYD=["NORTH"], DT=[1](min), AREA=[1.01](ha),
                     XIMP=[0.62], TIMP=[0.78], DWF=[0](cms), LOSS=[2],
                     SCS curve number CN=[84],
                     Pervious   surfaces: IAper=[8](mm), SLPP=[0.5](%),
                                          LGP=[40](m), MNP=[0.25], SCP=[0](min),
                     Impervious surfaces: IAimp=[2](mm), SLPI=[0.5](%),
                                          LGI=[60](m), MNI=[0.013], SCI=[0](min),
                     RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|-------------------------------------------------------|
*#-----------------|--------------- AREA SOUTH OF POND -----------------------|
*#-----------------|-------------------------------------------------------|
CALIB STANDHYD       ID=[3], NHYD=["SOUTH"], DT=[1](min), AREA=[0.57](ha),
                     XIMP=[0.72], TIMP=[0.9], DWF=[0](cms), LOSS=[2],
                     SCS curve number CN=[84],
                     Pervious   surfaces: IAper=[8](mm), SLPP=[0.5](%),
                                          LGP=[10](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
*#-----------------|-------------------------------------------------------|
*#-----------------|----- INTERSECTION AREA (TO NE POND - PHASE 1) ------------|
*#-----------------|-------------------------------------------------------|
CALIB STANDHYD       ID=[4], NHYD=["INT_AREA"], DT=[1](min), AREA=[0.79](ha),
                     XIMP=[0.56], TIMP=[0.70], DWF=[0](cms), LOSS=[2],
                     SCS curve number CN=[84],
                     Pervious   surfaces: IAper=[8](mm), SLPP=[0.5](%),
                                          LGP=[40](m), MNP=[0.25], SCP=[0](min),
                     Impervious surfaces: IAimp=[2.0](mm), SLPI=[0.5](%),
                                          LGI=[110](m), MNI=[0.013], SCI=[0](min)
                     RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|-------------------------------------------------------|
*#---------------------- TOTAL AREA CONTRIBUTING TO NE POND (PHASE 1) --------|
*#-----------------|-------------------------------------------------------|
ADD HYD              IDsum=[5], NHYD=["TO_POND"], IDs to add=[1+2+3+4]
*#-----------------|-------------------------------------------------------|
*#--------------------------------- R4 ----------------------------------------|
*#-----------------|-------------------------------------------------------|
DESIGN STANDHYD      ID=[2], NHYD=["R4"], DT=[1]min, AREA=[0.48](ha),
                     XIMP=[0.56], TIMP=[0.70], DWF=[0](cms), LOSS=[2], CN=[84],
                     SLOPE=[0.5](%), RAINFALL=[ , , , , ](mm/hr), END=-1
*#-----------------|-------------------------------------------------------|
*#---------------------- DISHARGE TO HIGH STREET (PHASE 1) -----------------|
*#-----------------|-------------------------------------------------------|
ADD HYD              IDsum=[7], NHYD=["P1_HIGH"], IDs to add=[5+2]
*#-----------------|-------------------------------------------------------|
*#*************************************************************************
*#************************** 24 hour SCS 25-year ***************************
*#*************************************************************************
*%-----------------|-------------------------------------------------------|
MASS STORM           PTOTAL=[86.4](mm), CSDT=[1](min),
                     CURVE_FILENAME=["SCS24HII.mst"]
*#-----------------|-------------------------------------------------------|
*#-----------------|--------- AREA WEST OF INTERSECTION (10HA) ---------------|
*#-----------------|-------------------------------------------------------|
CALIB NASHYD         ID=[1], NHYD=["WEST_PRE"], DT=[1]min, AREA=[11.1](ha),
                     DWF=[0](cms),  CN/C=[84], IA=[8](mm),
                     N=[3], TP=[0.41]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------|
*#-----------------|--------- AREA NORTH OF POND (&INC POND)-----------------|
*#-----------------|-------------------------------------------------------|
CALIB STANDHYD       ID=[2], NHYD=["NORTH"], DT=[1](min), AREA=[1.01](ha),
                     XIMP=[0.62], TIMP=[0.78], DWF=[0](cms), LOSS=[2],
                     SCS curve number CN=[84],
                     Pervious   surfaces: IAper=[8](mm), SLPP=[0.5](%),
                                          LGP=[40](m), MNP=[0.25], SCP=[0](min),
                     Impervious surfaces: IAimp=[2](mm), SLPI=[0.5](%),
                                          LGI=[60](m), MNI=[0.013], SCI=[0](min),
                     RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|-------------------------------------------------------|
*#-----------------|--------------- AREA SOUTH OF POND -----------------------|
*#-----------------|-------------------------------------------------------|
CALIB STANDHYD       ID=[3], NHYD=["SOUTH"], DT=[1](min), AREA=[0.57](ha),
                     XIMP=[0.72], TIMP=[0.9], DWF=[0](cms), LOSS=[2],
                     SCS curve number CN=[84],
                     Pervious   surfaces: IAper=[8](mm), SLPP=[0.5](%),
                                          LGP=[10](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
*#-----------------|-------------------------------------------------------|
*#-----------------|----- INTERSECTION AREA (TO NE POND - PHASE 1) ------------|
*#-----------------|-------------------------------------------------------|
CALIB STANDHYD       ID=[4], NHYD=["INT_AREA"], DT=[1](min), AREA=[0.79](ha),
                     XIMP=[0.56], TIMP=[0.70], DWF=[0](cms), LOSS=[2],
                     SCS curve number CN=[84],
                     Pervious   surfaces: IAper=[8](mm), SLPP=[0.5](%),
                                          LGP=[40](m), MNP=[0.25], SCP=[0](min),
                     Impervious surfaces: IAimp=[2.0](mm), SLPI=[0.5](%),
                                          LGI=[110](m), MNI=[0.013], SCI=[0](min)
                     RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|-------------------------------------------------------|
*#---------------------- TOTAL AREA CONTRIBUTING TO NE POND (PHASE 1) --------|
*#-----------------|-------------------------------------------------------|
ADD HYD              IDsum=[5], NHYD=["TO_POND"], IDs to add=[1+2+3+4]
*#-----------------|-------------------------------------------------------|
*#--------------------------------- R4 ----------------------------------------|
*#-----------------|-------------------------------------------------------|
DESIGN STANDHYD      ID=[2], NHYD=["R4"], DT=[1]min, AREA=[0.48](ha),
                     XIMP=[0.56], TIMP=[0.70], DWF=[0](cms), LOSS=[2], CN=[84],
                     SLOPE=[0.5](%), RAINFALL=[ , , , , ](mm/hr), END=-1
*#-----------------|-------------------------------------------------------|
*#---------------------- DISHARGE TO HIGH STREET (PHASE 1) -----------------|
*#-----------------|-------------------------------------------------------|
ADD HYD              IDsum=[7], NHYD=["P1_HIGH"], IDs to add=[5+2]
*#-----------------|-------------------------------------------------------|
*#*************************************************************************
*#------------------------------ 24 hour SCS 100-year -----------------------|
*#*************************************************************************
*#-----------------|-------------------------------------------------------|
MASS STORM           PTOTAL=[108.0](mm), CSDT=[12](min),
                     CURVE_FILENAME=["SCS24HII.MST"]
*#-----------------|-------------------------------------------------------|
*#-----------------|--------- AREA WEST OF INTERSECTION (10HA) ---------------|
*#-----------------|-------------------------------------------------------|
CALIB NASHYD         ID=[1], NHYD=["WEST_PRE"], DT=[1]min, AREA=[11.1](ha),
                     DWF=[0](cms),  CN/C=[84], IA=[8](mm),
                     N=[3], TP=[0.41]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------|
*#-----------------|--------- AREA NORTH OF POND (&INC POND)-----------------|
*#-----------------|-------------------------------------------------------|
CALIB STANDHYD       ID=[2], NHYD=["NORTH"], DT=[1](min), AREA=[1.01](ha),
                     XIMP=[0.62], TIMP=[0.78], DWF=[0](cms), LOSS=[2],
                     SCS curve number CN=[84],
                     Pervious   surfaces: IAper=[8](mm), SLPP=[0.5](%),
                                          LGP=[40](m), MNP=[0.25], SCP=[0](min),
                     Impervious surfaces: IAimp=[2](mm), SLPI=[0.5](%),
                                          LGI=[60](m), MNI=[0.013], SCI=[0](min),
                     RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|-------------------------------------------------------|
*#-----------------|--------------- AREA SOUTH OF POND -----------------------|
*#-----------------|-------------------------------------------------------|
CALIB STANDHYD       ID=[3], NHYD=["SOUTH"], DT=[1](min), AREA=[0.57](ha),
                     XIMP=[0.72], TIMP=[0.9], DWF=[0](cms), LOSS=[2],
                     SCS curve number CN=[84],
                     Pervious   surfaces: IAper=[8](mm), SLPP=[0.5](%),
                                          LGP=[10](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
*#-----------------|-------------------------------------------------------|
*#-----------------|----- INTERSECTION AREA (TO NE POND - PHASE 1) ------------|
*#-----------------|-------------------------------------------------------|
CALIB STANDHYD       ID=[4], NHYD=["INT_AREA"], DT=[1](min), AREA=[0.79](ha),
                     XIMP=[0.56], TIMP=[0.70], DWF=[0](cms), LOSS=[2],
                     SCS curve number CN=[84],
                     Pervious   surfaces: IAper=[8](mm), SLPP=[0.5](%),
                                          LGP=[40](m), MNP=[0.25], SCP=[0](min),
                     Impervious surfaces: IAimp=[2.0](mm), SLPI=[0.5](%),
                                          LGI=[110](m), MNI=[0.013], SCI=[0](min)
                     RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*#-----------------|-------------------------------------------------------|
*#---------------------- TOTAL AREA CONTRIBUTING TO NE POND (PHASE 1) --------|
*#-----------------|-------------------------------------------------------|
ADD HYD              IDsum=[5], NHYD=["TO_POND"], IDs to add=[1+2+3+4]
*#-----------------|-------------------------------------------------------|
*#--------------------------------- R4 ----------------------------------------|
*#-----------------|-------------------------------------------------------|
DESIGN STANDHYD      ID=[2], NHYD=["R4"], DT=[1]min, AREA=[0.48](ha),
                     XIMP=[0.56], TIMP=[0.70], DWF=[0](cms), LOSS=[2], CN=[84],
                     SLOPE=[0.5](%), RAINFALL=[ , , , , ](mm/hr), END=-1
*#-----------------|-------------------------------------------------------|
*#---------------------- DISHARGE TO HIGH STREET (PHASE 1) -----------------|
*#-----------------|-------------------------------------------------------|
ADD HYD              IDsum=[7], NHYD=["P1_HIGH"], IDs to add=[5+2]
*#-----------------|-------------------------------------------------------|
*#*************************************************************************
*#------------------------------ REGIONAL EVENT ------------------------------|
*#*************************************************************************
*#-----------------|-------------------------------------------------------|
READ STORM           STORM_FILENAME=["tim.STM"]
*#-----------------|-------------------------------------------------------|
*#-----------------|--------- AREA WEST OF INTERSECTION (10HA) ---------------|
*#-----------------|-------------------------------------------------------|
CALIB NASHYD         ID=[1], NHYD=["WEST_PRE"], DT=[1]min, AREA=[11.1](ha),
                     DWF=[0](cms),  CN/C=[84], IA=[8](mm),
```

```
00271>                      N=[3], TP=[0.41]hrs,
00272>                      RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00273> *#------------------|-------------------------------------------------------------|
00274> *#------------------|---------- AREA NORTH OF POND (&INC POND)----------------------|
00275> *#------------------|-------------------------------------------------------------|
00276> CALIB STANDHYD       ID=[2], NHYD=["NORTH"], DT=[1](min), AREA=[1.01](ha),
00277>                      XIMP=[0.62], TIMP=[0.78], DWF=[0](cms), LOSS=[2],
00278>                      SCS curve number CN=[84],
00279>                      Pervious   surfaces: IAper=[8](mm), SLPP=[0.5](%),
00280>                                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
00281>                      Impervious surfaces: IAimp=[2](mm), SLPI=[0.5](%),
00282>                                           LGI=[60](m), MNI=[0.013], SCI=[0](min),
00283>                      RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
00284> *#------------------|-------------------------------------------------------------|
00285> *#------------------|---------------- AREA SOUTH OF POND ----------------------------|
00286> *#------------------|-------------------------------------------------------------|
00287> CALIB STANDHYD       ID=[3], NHYD=["SOUTH"], DT=[1](min), AREA=[0.57](ha),
00288>                      XIMP=[0.72], TIMP=[0.9], DWF=[0](cms), LOSS=[2],
00289>                      SCS curve number CN=[84],
00290>                      Pervious   surfaces: IAper=[8](mm), SLPP=[0.5](%),
00291>                                           LGP=[10](m), MNP=[0.25], SCP=[0](min),
00292>                      Impervious surfaces: IAimp=[2](mm), SLPI=[0.5](%),
00293>                                           LGI=[100](m), MNI=[0.013], SCI=[0](min)
00294>                      RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
00295> *#------------------|-------------------------------------------------------------|
00296> *#------------------|----- INTERSECTION AREA (TO NE POND - PHASE 1) ------------|
00297> *#------------------|-------------------------------------------------------------|
00298> CALIB STANDHYD       ID=[4], NHYD=["INT_AREA"], DT=[1](min), AREA=[0.79](ha),
00299>                      XIMP=[0.56], TIMP=[0.70], DWF=[0](cms), LOSS=[2],
00300>                      SCS curve number CN=[84],
00301>                      Pervious   surfaces: IAper=[8](mm), SLPP=[0.5](%),
00302>                                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
00303>                      Impervious surfaces: IAimp=[2.0](mm), SLPI=[0.5](%),
00304>                                           LGI=[110](m), MNI=[0.013], SCI=[0](min)
00305>                      RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
00306> *#------------------|-------------------------------------------------------------|
00307> *#------------------|------ TOTAL AREA CONTRIBUTING TO NE POND (PHASE 1) --------|
00308> *#------------------|=============================================================|
00309> ADD HYD             IDsum=[5], NHYD=["TO_POND"], IDs to add=[1+2+3+4]
00310> *#------------------|-------------------------------------------------------------|
00311> *#------------------|------------------------ R4 ---------------------------------|
00312> *#------------------|=============================================================|
00313> DESIGN STANDHYD      ID=[2], NHYD=["R4"], DT=[1]min, AREA=[0.48](ha),
00314>                      XIMP=[0.56], TIMP=[0.70], DWF=[0](cms), LOSS=[2], CN=[84],
00315>                      SLOPE=[0.5](%), RAINFALL=[ ,  ,  ,  ](mm/hr), END=-1
00316> *#------------------|-------------------------------------------------------------|
00317> *#------------------|------------ DISHARGE TO HIGH STREET (PHASE 1) ---------------|
00318> *#------------------|=============================================================|
00319> ADD HYD             IDsum=[7], NHYD=["P1_HIGH"], IDs to add=[5+2]
00320> *#------------------|-------------------------------------------------------------|
00321> FINISH
00322>
```

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

  SSSSS  W   W  M   M  H   H  Y   Y  M   M   OOO        999    999      ==========
  S      W W W  MM MM  H   H   Y Y   MM MM  O   O      9   9  9   9
  SSSSS  W W W  M M M  HHHHH    Y    M M M  O   O  ##  9   9  9   9     Ver  4.05
      S   W W   M   M  H   H    Y    M   M  O   O       9999   9999     Sept 2011
  SSSSS   W W   M   M  H   H    Y    M   M   OOO           9      9     =========
                                                       9   9  9   9     # 3737016
       StormWater Management HYdrologic Model           999    999      =========

*********************************************************************************
******************************* SWMHYMO Ver/4.05 ********************************
*********  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  :     10           *********
*********              Max. number of rainfall points: 105408           *********
*********              Max. number of flow points    : 105408           *********
*********************************************************************************

***** DESCRIPTION SUMMARY TABLE HEADERS (units depend on METOUT in START) *****
*****-----------------------------------------------------------------------*****
*****     ID:  Hydrograph IDentification numbers, (1-10).                   *****
*****   NHYD:  Hydrograph reference numbers, (6 digits or characters).      *****
*****   AREA:  Drainage area associated with hydrograph, (ac.) or (ha.).    *****
***** QPEAK:  Peak flow of simulated hydrograph, (ft^3/s) or (m^3/s).       *****
***** TpeakDate_hh:mm is the date and time of the peak flow.                *****
*****   R.V.:  Runoff Volume of simulated hydrograph, (in) or (mm).         *****
*****   R.C.:  Runoff Coefficient of simulated hydrograph, (ratio).         *****
*****      *:  see WARNING or NOTE message printed at end of run.           *****
*****     **:  see  ERROR  message printed at end of run.                   *****
*********************************************************************************
*********************************************************************************

:::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::

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

**********************     S U M M A R Y    O U T P U T     *********************
*********************************************************************************
*          DATE: 2015-04-09     TIME: 11:38:05     RUN COUNTER: 000145         *
+++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
* Input   filename: C:\SWMHYMO\THIRDH-1\UNCONT-2\UnSCS4p1.DAT                  *
* Output  filename: C:\SWMHYMO\THIRDH-1\UNCONT-2\UnSCS4p1.out                  *
* Summary filename: C:\SWMHYMO\THIRDH-1\UNCONT-2\UnSCS4p1.sum                  *
* User comments:                                                               *
* 1:___________________________________________________________________________*
* 2:___________________________________________________________________________*
* 3:___________________________________________________________________________*
*********************************************************************************


#********************************************************************************
#  Project Name: [West End Commercial, Collingwood]    Project Number: [183-269
#  Date         : April 9, 2015
#  Modeller     : [T. MacDougall]
#  Company      : CF Crozier & Associates Inc.
#  License #    :  3737016
#********************************************************************************
#   Interim Condition - Uncontrolled
#
#   Rainfall Data:  Storms are the SCS Volumes from MTO Design Chart 1.01(e)
#   District 5: Owen Sound, Basins West of and including Collingwood.
#-----------------|---------------------------------------------------------------|
 RUN:COMMAND#
 001:0001----------------------------------------------------------------------
     START
      [TZERO =     .00 hrs on        0]
      [METOUT=   2     (1=imperial, 2=metric output)]
      [NSTORM=   0 ]
      [NRUN   =   1 ]
#-----------------|---------------------------------------------------------------|
#********************************************************************************
#******************************** 25mm event ************************************
#********************************************************************************
#-----------------|---------------------------------------------------------------|
 001:0002----------------------------------------------------------------------
     MASS STORM
      Filename = C:\SWMHYMO\THIRDH~1\UNCONT~2\SCS24HII.mst
      Comment  = 24 hour SCS II storm mass curve
      [SDT= 1.00:SDUR=  24.00:PTOT=  25.00]
#-----------------|---------------------------------------------------------------|
#-----------------|--------- AREA WEST OF INTERSECTION (10HA) -------------------|
#-----------------|---------------------------------------------------------------|
 001:0003---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       01:WEST_PRE      11.10      .061 No_date   12:37     4.42
      [CN= 84.0: N= 3.00]
      [Tp=  .41:DT= 1.00]
#-----------------|---------------------------------------------------------------|
#-----------------|--------- AREA NORTH OF POND (&INC POND)----------------------|
#-----------------|---------------------------------------------------------------|
 001:0004---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD     02:NORTH          1.01      .049 No_date   12:12    17.52
      [XIMP=.62:TIMP=.78]
      [LOSS= 2 :CN= 84.0]
      [Pervious    area: IAper= 8.00:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 2.00:SLPI= .50:LGI=  60.:MNI=.013:SCI=   .0]
#-----------------|---------------------------------------------------------------|
#-----------------|---------------- AREA SOUTH OF POND --------------------------|
#-----------------|---------------------------------------------------------------|
 001:0005---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD     03:SOUTH           .57      .034 No_date   12:13    20.04
      [XIMP=.72:TIMP=.90]
      [LOSS= 2 :CN= 84.0]
      [Pervious    area: IAper= 8.00:SLPP= .50:LGP=  10.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 2.00:SLPI= .50:LGI= 100.:MNI=.013:SCI=   .0]
#-----------------|---------------------------------------------------------------|
#-----------------|----- INTERSECTION AREA (TO NE POND - PHASE 1) ---------------|
#-----------------|---------------------------------------------------------------|
 001:0006---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD     04:INT_AREA        .79      .032 No_date   12:13    16.08
      [XIMP=.56:TIMP=.70]
      [LOSS= 2 :CN= 84.0]
      [Pervious    area: IAper= 8.00:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 2.00:SLPI= .50:LGI= 110.:MNI=.013:SCI=   .0]
#-----------------|---------------------------------------------------------------|
#---------------------- TOTAL AREA CONTRIBUTING TO NE POND (PHASE 1) ------------|
#-----------------|---------------------------------------------------------------|
 001:0007---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            01:WEST_PRE      11.10      .061 No_date   12:37     4.42
                    +   02:NORTH          1.01      .049 No_date   12:12    17.52
                    +   03:SOUTH           .57      .034 No_date   12:13    20.04
                    +   04:INT_AREA        .79      .032 No_date   12:13    16.08
      [DT= 1.00]  SUM=  05:TO_POND       13.47      .134 No_date   12:13     6.75
#-----------------|---------------------------------------------------------------|
#-------------------------------------- R4 --------------------------------------|
#-----------------|---------------------------------------------------------------|
 001:0008---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     DESIGN STANDHYD    02:R4              .48      .022 No_date   12:12    17.99
      [XIMP=.56:TIMP=.70]
      [SLP= .50:DT= 1.00]
      [LOSS= 2 :CN= 84.0]
#-----------------|---------------------------------------------------------------|
#------------------------- DISHARGE TO HIGH STREET (PHASE 1) --------------------|
#-----------------|---------------------------------------------------------------|
 001:0009---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            05:TO_POND       13.47      .134 No_date   12:13     6.75
                    +   02:R4              .48      .022 No_date   12:12    17.99
      [DT= 1.00]  SUM=  07:P1_HIGH       13.95      .155 No_date   12:13     7.13
#-----------------|---------------------------------------------------------------|
#********************************************************************************
#************************** 24 hour SCS 5-year **********************************
#********************************************************************************
 001:0010----------------------------------------------------------------------
     MASS STORM
      Filename = C:\SWMHYMO\THIRDH~1\UNCONT~2\SCS24HII.mst
      Comment  = 24 hour SCS II storm mass curve
      [SDT= 1.00:SDUR=  24.00:PTOT=  62.40]
#-----------------|---------------------------------------------------------------|
#-----------------|--------- AREA WEST OF INTERSECTION (10HA) -------------------|
#-----------------|---------------------------------------------------------------|
 001:0011---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       01:WEST_PRE      11.10      .504 No_date   12:31    28.79
      [CN= 84.0: N= 3.00]
      [Tp=  .41:DT= 1.00]
#-----------------|---------------------------------------------------------------|
#-----------------|--------- AREA NORTH OF POND (&INC POND)----------------------|
#-----------------|---------------------------------------------------------------|
 001:0012---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD     02:NORTH          1.01      .148 No_date   12:12    52.23
      [XIMP=.62:TIMP=.78]
      [LOSS= 2 :CN= 84.0]
      [Pervious    area: IAper= 8.00:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 2.00:SLPI= .50:LGI=  60.:MNI=.013:SCI=   .0]
#-----------------|---------------------------------------------------------------|
#-----------------|---------------- AREA SOUTH OF POND --------------------------|
#-----------------|---------------------------------------------------------------|
 001:0013---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD     03:SOUTH           .57      .099 No_date   12:12    56.41
      [XIMP=.72:TIMP=.90]
      [LOSS= 2 :CN= 84.0]
      [Pervious    area: IAper= 8.00:SLPP= .50:LGP=  10.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 2.00:SLPI= .50:LGI= 100.:MNI=.013:SCI=   .0]
#-----------------|---------------------------------------------------------------|
#-----------------|----- INTERSECTION AREA (TO NE POND - PHASE 1) ---------------|
#-----------------|---------------------------------------------------------------|
 001:0014---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD     04:INT_AREA        .79      .101 No_date   12:12    49.69
      [XIMP=.56:TIMP=.70]
      [LOSS= 2 :CN= 84.0]
      [Pervious    area: IAper= 8.00:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 2.00:SLPI= .50:LGI= 110.:MNI=.013:SCI=   .0]
#-----------------|---------------------------------------------------------------|
#---------------------- TOTAL AREA CONTRIBUTING TO NE POND (PHASE 1) ------------|
#-----------------|---------------------------------------------------------------|
 001:0015---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            01:WEST_PRE      11.10      .504 No_date   12:31    28.79
                    +   02:NORTH          1.01      .148 No_date   12:12    52.23
                    +   03:SOUTH           .57      .099 No_date   12:12    56.41
                    +   04:INT_AREA        .79      .101 No_date   12:12    49.69
      [DT= 1.00]  SUM=  05:TO_POND       13.47      .625 No_date   12:13    32.94
#-----------------|---------------------------------------------------------------|
#-------------------------------------- R4 --------------------------------------|
#-----------------|---------------------------------------------------------------|
 001:0016---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     DESIGN STANDHYD    02:R4              .48      .066 No_date   12:12    52.06
      [XIMP=.56:TIMP=.70]
      [SLP= .50:DT= 1.00]
      [LOSS= 2 :CN= 84.0]
#-----------------|---------------------------------------------------------------|
#------------------------- DISHARGE TO HIGH STREET (PHASE 1) --------------------|
#-----------------|---------------------------------------------------------------|
 001:0017---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            05:TO_POND       13.47      .625 No_date   12:13    32.94
                    +   02:R4              .48      .066 No_date   12:12    52.06
      [DT= 1.00]  SUM=  07:P1_HIGH       13.95      .688 No_date   12:13    33.60
#-----------------|---------------------------------------------------------------|
#********************************************************************************
#************************** 24 hour SCS 25-year *********************************
#********************************************************************************
 001:0018----------------------------------------------------------------------
     MASS STORM
      Filename = C:\SWMHYMO\THIRDH~1\UNCONT~2\SCS24HII.mst
      Comment  = 24 hour SCS II storm mass curve
      [SDT= 1.00:SDUR=  24.00:PTOT=  86.40]
#-----------------|---------------------------------------------------------------|
#-----------------|--------- AREA WEST OF INTERSECTION (10HA) -------------------|
#-----------------|---------------------------------------------------------------|
 001:0019---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       01:WEST_PRE      11.10      .860 No_date   12:31    48.48
      [CN= 84.0: N= 3.00]
      [Tp=  .41:DT= 1.00]
#-----------------|---------------------------------------------------------------|
#-----------------|--------- AREA NORTH OF POND (&INC POND)----------------------|
#-----------------|---------------------------------------------------------------|
 001:0020---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD     02:NORTH          1.01      .218 No_date   12:12    75.47
      [XIMP=.62:TIMP=.78]
      [LOSS= 2 :CN= 84.0]
      [Pervious    area: IAper= 8.00:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 2.00:SLPI= .50:LGI=  60.:MNI=.013:SCI=   .0]
#-----------------|---------------------------------------------------------------|
#-----------------|---------------- AREA SOUTH OF POND --------------------------|
#-----------------|---------------------------------------------------------------|
 001:0021---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD     03:SOUTH           .57      .143 No_date   12:12    80.15
      [XIMP=.72:TIMP=.90]
      [LOSS= 2 :CN= 84.0]
      [Pervious    area: IAper= 8.00:SLPP= .50:LGP=  10.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 2.00:SLPI= .50:LGI= 100.:MNI=.013:SCI=   .0]
#-----------------|---------------------------------------------------------------|
#-----------------|----- INTERSECTION AREA (TO NE POND - PHASE 1) ---------------|
#-----------------|---------------------------------------------------------------|
 001:0022---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD     04:INT_AREA        .79      .153 No_date   12:12    72.57
      [XIMP=.56:TIMP=.70]
      [LOSS= 2 :CN= 84.0]
      [Pervious    area: IAper= 8.00:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 2.00:SLPI= .50:LGI= 110.:MNI=.013:SCI=   .0]
#-----------------|---------------------------------------------------------------|
#---------------------- TOTAL AREA CONTRIBUTING TO NE POND (PHASE 1) ------------|
#-----------------|---------------------------------------------------------------|
 001:0023---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            01:WEST_PRE      11.10      .860 No_date   12:31    48.48
                    +   02:NORTH          1.01      .218 No_date   12:12    75.47
                    +   03:SOUTH           .57      .143 No_date   12:12    80.15
```

```
                     +  04:INT_AREA           .79     .153 No_date    12:12    72.57
      [DT= 1.00]  SUM=  05:TO_POND          13.47    1.002 No_date    12:13    53.26
#-----------------|-----------------------------------------------------------------|
#--------------------------------- R4 ---------------------------------------------|
#-----------------|-----------------------------------------------------------------|
 001:0024---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
    DESIGN STANDHYD     02:R4                 .48     .099 No_date    12:12    75.03
     [XIMP=.56:TIMP=.70]
     [SLP= .50:DT= 1.00]
     [LOSS= 2 :CN= 84.0]
#-----------------|-----------------------------------------------------------------|
#------------------------- DISHARGE TO HIGH STREET (PHASE 1) ----------------------|
#-----------------|-----------------------------------------------------------------|
 001:0025---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
    ADD HYD             05:TO_POND          13.47    1.002 No_date    12:13    53.26
                     +  02:R4                 .48     .099 No_date    12:12    75.03
      [DT= 1.00]  SUM=  07:P1_HIGH          13.95    1.094 No_date    12:13    54.01
#-----------------|-----------------------------------------------------------------|
#***********************************************************************************
#----------------------------- 24 hour SCS 100-year -------------------------------|
#***********************************************************************************
#-----------------|-----------------------------------------------------------------|
 001:0026--------------------------------------------------------------------------
    MASS STORM
     Filename = C:\SWMHYMO\THIRDH~1\UNCONT~2\SCS24HII.MST
     Comment  = 24 hour SCS II storm mass curve
     [SDT=12.00:SDUR=  24.00:PTOT= 108.00]
#-----------------|-----------------------------------------------------------------|
#-----------------|--------- AREA WEST OF INTERSECTION (10HA) ---------------------|
#-----------------|-----------------------------------------------------------------|
 001:0027---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
    CALIB NASHYD        01:WEST_PRE         11.10    1.199 No_date    12:30    67.39
     [CN= 84.0: N= 3.00]
     [Tp=  .41:DT= 1.00]
#-----------------|-----------------------------------------------------------------|
#-----------------|--------- AREA NORTH OF POND (&INC POND)------------------------|
#-----------------|-----------------------------------------------------------------|
 001:0028---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
    CALIB STANDHYD      02:NORTH             1.01     .285 No_date    12:12    96.63
     [XIMP=.62:TIMP=.78]
     [LOSS= 2 :CN= 84.0]
     [Pervious     area: IAper= 8.00:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
     [Impervious   area: IAimp= 2.00:SLPI= .50:LGI=  60.:MNI=.013:SCI=   .0]
#-----------------|-----------------------------------------------------------------|
#-----------------|---------------- AREA SOUTH OF POND ----------------------------|
#-----------------|-----------------------------------------------------------------|
 001:0029---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
    CALIB STANDHYD      03:SOUTH              .57     .181 No_date    12:12   101.60
     [XIMP=.72:TIMP=.90]
     [LOSS= 2 :CN= 84.0]
     [Pervious     area: IAper= 8.00:SLPP= .50:LGP=  10.:MNP=.250:SCP=   .0]
     [Impervious   area: IAimp= 2.00:SLPI= .50:LGI= 100.:MNI=.013:SCI=   .0]
#-----------------|-----------------------------------------------------------------|
#-----------------|----- INTERSECTION AREA (TO NE POND - PHASE 1) -----------------|
#-----------------|-----------------------------------------------------------------|
 001:0030---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
    CALIB STANDHYD      04:INT_AREA           .79     .204 No_date    12:12    93.50
     [XIMP=.56:TIMP=.70]
     [LOSS= 2 :CN= 84.0]
     [Pervious     area: IAper= 8.00:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
     [Impervious   area: IAimp= 2.00:SLPI= .50:LGI= 110.:MNI=.013:SCI=   .0]
#-----------------|-----------------------------------------------------------------|
#---------------------- TOTAL AREA CONTRIBUTING TO NE POND (PHASE 1) --------------|
#-----------------|-----------------------------------------------------------------|
 001:0031---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
    ADD HYD             01:WEST_PRE         11.10    1.199 No_date    12:30    67.39
                     +  02:NORTH             1.01     .285 No_date    12:12    96.63
                     +  03:SOUTH              .57     .181 No_date    12:12   101.60
                     +  04:INT_AREA           .79     .204 No_date    12:12    93.50
      [DT= 1.00]  SUM=  05:TO_POND          13.47    1.372 No_date    12:25    72.56
#-----------------|-----------------------------------------------------------------|
#--------------------------------- R4 ---------------------------------------------|
#-----------------|-----------------------------------------------------------------|
 001:0032---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
    DESIGN STANDHYD     02:R4                 .48     .129 No_date    12:12    96.01
     [XIMP=.56:TIMP=.70]
     [SLP= .50:DT= 1.00]
     [LOSS= 2 :CN= 84.0]
#-----------------|-----------------------------------------------------------------|
#------------------------- DISHARGE TO HIGH STREET (PHASE 1) ----------------------|
#-----------------|-----------------------------------------------------------------|
 001:0033---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
    ADD HYD             05:TO_POND          13.47    1.372 No_date    12:25    72.56
                     +  02:R4                 .48     .129 No_date    12:12    96.01
      [DT= 1.00]  SUM=  07:P1_HIGH          13.95    1.490 No_date    12:13    73.37
#-----------------|-----------------------------------------------------------------|
#***********************************************************************************
#------------------------------ REGIONAL EVENT ------------------------------------|
#***********************************************************************************
#-----------------|-----------------------------------------------------------------|
 001:0034--------------------------------------------------------------------------
    READ STORM
     Filename = tim.STM
     Comment  =
     [SDT=60.00:SDUR=  12.00:PTOT= 193.00]
#-----------------|-----------------------------------------------------------------|
#-----------------|--------- AREA WEST OF INTERSECTION (10HA) ---------------------|
#-----------------|-----------------------------------------------------------------|
 001:0035---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
    CALIB NASHYD        01:WEST_PRE         11.10    1.087 No_date     7:06   146.65
     [CN= 84.0: N= 3.00]
     [Tp=  .41:DT= 1.00]
#-----------------|-----------------------------------------------------------------|
#-----------------|--------- AREA NORTH OF POND (&INC POND)------------------------|
#-----------------|-----------------------------------------------------------------|
 001:0036---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
    CALIB STANDHYD      02:NORTH             1.01     .117 No_date     7:00   180.73
     [XIMP=.62:TIMP=.78]
     [LOSS= 2 :CN= 84.0]
     [Pervious     area: IAper= 8.00:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
     [Impervious   area: IAimp= 2.00:SLPI= .50:LGI=  60.:MNI=.013:SCI=   .0]
#-----------------|-----------------------------------------------------------------|
#-----------------|---------------- AREA SOUTH OF POND ----------------------------|
#-----------------|-----------------------------------------------------------------|
 001:0037---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
    CALIB STANDHYD      03:SOUTH              .57     .068 No_date     7:00   186.32
     [XIMP=.72:TIMP=.90]
     [LOSS= 2 :CN= 84.0]
     [Pervious     area: IAper= 8.00:SLPP= .50:LGP=  10.:MNP=.250:SCP=   .0]
     [Impervious   area: IAimp= 2.00:SLPI= .50:LGI= 100.:MNI=.013:SCI=   .0]
#-----------------|-----------------------------------------------------------------|
#-----------------|----- INTERSECTION AREA (TO NE POND - PHASE 1) -----------------|
#-----------------|-----------------------------------------------------------------|
 001:0038---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
    CALIB STANDHYD      04:INT_AREA           .79     .090 No_date     7:00   177.14
     [XIMP=.56:TIMP=.70]
     [LOSS= 2 :CN= 84.0]
     [Pervious     area: IAper= 8.00:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
     [Impervious   area: IAimp= 2.00:SLPI= .50:LGI= 110.:MNI=.013:SCI=   .0]
#-----------------|-----------------------------------------------------------------|
#---------------------- TOTAL AREA CONTRIBUTING TO NE POND (PHASE 1) --------------|
#-----------------|-----------------------------------------------------------------|
 001:0039---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
    ADD HYD             01:WEST_PRE         11.10    1.087 No_date     7:06   146.65
                     +  02:NORTH             1.01     .117 No_date     7:00   180.73
                     +  03:SOUTH              .57     .068 No_date     7:00   186.32
                     +  04:INT_AREA           .79     .090 No_date     7:00   177.14
      [DT= 1.00]  SUM=  05:TO_POND          13.47    1.341 No_date     7:01   152.67
#-----------------|-----------------------------------------------------------------|
#--------------------------------- R4 ---------------------------------------------|
#-----------------|-----------------------------------------------------------------|
 001:0040---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
    DESIGN STANDHYD     02:R4                 .48     .055 No_date     7:00   179.72
     [XIMP=.56:TIMP=.70]
     [SLP= .50:DT= 1.00]
     [LOSS= 2 :CN= 84.0]
#-----------------|-----------------------------------------------------------------|
#------------------------- DISHARGE TO HIGH STREET (PHASE 1) ----------------------|
#-----------------|-----------------------------------------------------------------|
 001:0041---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
    ADD HYD             05:TO_POND          13.47    1.341 No_date     7:01   152.67
                     +  02:R4                 .48     .055 No_date     7:00   179.72
      [DT= 1.00]  SUM=  07:P1_HIGH          13.95    1.395 No_date     7:00   153.60
#-----------------|-----------------------------------------------------------------|
 001:0042--------------------------------------------------------------------------
     FINISH
-----------------------------------------------------------------------------------
***********************************************************************************
    WARNINGS / ERRORS / NOTES
    -------------------------
  Simulation ended on 2015-04-09     at 11:38:07
===================================================================================
```

CROZIER & ASSOCIATES
Consulting Engineers

Project	Third & High St	**D.A.**	**WEST_PRE**
Project	183-2697	**D.A.**	**11.1**
Date:	4/8/2015		
By:	TM		

Hydrologic Parameters: CALIB NASHYD Command
Interim Drainage Area: WEST_PRE

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic Group	% Area	Area
Kemble Clay Loam	Kc	D	100	11.1
				0
				0
				0
Total Area				11.1

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
Kc		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 Area	0		0		0		0		0			

Pervious Landuses Present:												
	Woodland		Meadow/Pasture		Wetland		Lawn		Cultivated		Subtotals	
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area	A*CN
Kc	0.00		11.10	84	0.00		0.00		0.00		11.10	932.40
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 Area	0.00		11.10		0.00		0.00		0.00			

	Composite Area Calculations	Total Pervious Area	11.10
		Total Impervious Area	0
		% Impervious	0.00
		Composite Curve Number	84.0
		Total Area Check	11.1

Initial Abstraction and Tp Calculations

Initial Abstraction				Composite Curve Number								
				Kemble Clay Loam		0		0		0		
Landuse	IA (mm)	Area (ha)	A * IA	RC	Area	RC	Area	RC	Area	RC	Area	A*RC
Woodland	10	0	0		0.00		0		0		0	0
Meadow/Past	8	11.1	88.8	0.40	11.10		0		0		0	4.44
Wetland	16	0	0		0.00		0		0		0	0
Lawn	5	0	0		0.00		0		0		0	0
Cultivated	7	0	0		0.00		0		0		0	0
Impervious	2	0	0		0.00		0		0		0	0
Composite IA		11.1	8	Composite Runoff Coefficient								0.4

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)
	380	6.8	1.79%	2.3	0.31	0.34	0.23	0.23	0.25	0.17	0.61	0.41
			#DIV/0!		#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!				

Appropriate calculated time to peak:	0.41	Appropriate Method:	Airport

CROZIER & ASSOCIATES
Consulting Engineers

Project Name:	Third & High St	**D.A. NAME**	**NORTH**
Project Number:	183-2697	**D.A. AREA (ha)**	**1.01**
Date:	4/8/2015		
By:	TM		

Hydrologic Parameters: CALIB STANDHYD Command
Interim Drainage Area: NORTH

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic Group	% Area	Area
Kemble Clay Loam	Kc	D	100	1.01
				0
				0
				0
Total Area Check				1.01

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
Kc	0	98	0	98	0.46	98	0.16	98	0.17	98	0.79	77.42
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		0.46		0.16		0.17			

Pervious Landuses Present:												
	Woodland		Meadow/Pasture		Wetland		Lawn		Cultivated		Subtotals	
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area	A*CN
Kc	0		0.22	84	0		0		0		0.22	18.48
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		0.22		0		0		0			

	Pervious Area Calculations	Total Pervious Area	0.22
		Composite Pervious Curve Number	84
	Impervious Area Calculations	Total Directly Connected Area	0.63
		Total Indirectly Connected Area	0.16
		Total Impervious Area	0.79
		% X imp	62
		% T imp	78
		Total Area Check	1.01

Initial Abstraction and Tp Calculations

Landuse	IA (mm)	Area (ha)	A * IA
Woodland	10	0	0
Meadow/Pastu	8	0.22	1.76
Wetland	16	0	0
Lawn	5	0	0
Cultivated	7	0	0

Land Use	IA (mm)	Slope (%)	Travel Length (m)	Manning's n
Pervious	8.0	0.5	40	0.25
Impervious	2.0	0.5	60	0.013

CROZIER & ASSOCIATES
Consulting Engineers

Project Name:	Third & High St	**D.A. NAME**	**SOUTH**
Project Number:	183-2697	**D.A. AREA (ha)**	**0.57**
Date:	4/8/2015		
By:	TM		

Hydrologic Parameters: CALIB STANDHYD Command
Interim Drainage Area: SOUTH

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic Group	% Area	Area
Kemble Clay Loam	Kc	D	100	0.57
				0
				0
				0
Total Area Check				0.57

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
Kc	0	98	0	98	0.41	98	0.10	98	0	98	0.513	50.274
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		0.41		0.10		0			

Pervious Landuses Present:												
	Woodland		Meadow/Pasture		Wetland		Lawn		Cultivated		Subtotals	
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area	A*CN
Kc	0		0.06	84	0		0.00		0		0.057	4.788
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		0.06		0		0.00		0			

	Pervious Area Calculations	Total Pervious Area	0.057
		Composite Pervious Curve Number	84
	Impervious Area Calculations	Total Directly Connected Area	0.41
		Total Indirectly Connected Area	0.103
		Total Impervious Area	0.513
		% X imp	72
		% T imp	90
		Total Area Check	0.57

Initial Abstraction and Tp Calculations

Landuse	IA (mm)	Area (ha)	A * IA
Woodland	10	0	0
Meadow/Pastu	8	0.057	0.456
Wetland	16	0	0
Lawn	5	0	0
Cultivated	7	0	0

Land Use	IA (mm)	Slope (%)	Travel Length (m)	Manning's n
Pervious	8.0	0.5	10	0.25
Impervious	2.0	0.5	100	0.013

CROZIER &ASSOCIATES
Consulting Engineers

Project Name:	Third & High St	**D.A. NAME**	**INT_AREA**
Project Number:	183-2697	**D.A. AREA (ha)**	**0.79**
Date:	4/8/2015		
By:	TM		

Hydrologic Parameters: CALIB STANDHYD Command
Interim Drainage Area: INT_AREA

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic Group	% Area	Area
Kemble Clay Loam	Kc	D	100	0.79
				0
				0
				0
Total Area Check				0.79

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
Kc	0.44	98	0	98	0	98	0.11	98	0	98	0.553	54.194
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	0.44		0		0		0.11		0			

Pervious Landuses Present:												
	Woodland		Meadow/Pasture		Wetland		Lawn		Cultivated		Subtotals	
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area	A*CN
Kc	0		0.24	84	0		0		0		0.237	19.908
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		0.24		0		0		0			

	Pervious Area Calculations	Total Pervious Area	0.237
		Composite Pervious Curve Number	84
	Impervious Area Calculations	Total Directly Connected Area	0.4424
		Total Indirectly Connected Area	0.1106
		Total Impervious Area	0.553
		% X imp	56
		% T imp	70
		Total Area Check	0.79

Initial Abstraction and Tp Calculations

Landuse	IA (mm)	Area (ha)	A * IA
Woodland	10	0	0
Meadow/Pastu	8	0.237	1.896
Wetland	16	0	0
Lawn	5	0	0
Cultivated	7	0	0

Land Use	IA (mm)	Slope (%)	Travel Length (m)	Manning's n
Pervious	8.0	0.5	40	0.25
Impervious	2.0	0.5	110	0.013

CROZIER & ASSOCIATES
Consulting Engineers

Project:	**Third St/High St**
Project No.:	**183-2697**
File:	**Pond Hydraulic Desigr**
Design by:	**T. MacDougall**
Date:	**9-Apr-15**

WEST END COMMERCIAL - PHASE 1 - NE POND/BLOCK 1 PONDING

Pond Stage - Storage - Discharge Calculations

Ext Detention Orifice Diameter: 0.205 m
Ext Detention Orifice Invert Elevation: 180.4 m

*Block 1 ponding storage begins at 181.00 (the existing elevation at the upstream end of the NE SWM pond culvert)

	Elev.	Depth	NE Pond		Block 1 Ponding		Total	ED Orifice	Total	Storage
		Above PP	Area	Storage Vol	Area	Storage Vol	Storage Vol	Discharge	Discharge	
	(m)	(m)	(sqm)	(cu.m)	(sqm)	(cu.m)	(cu.m)	(cu.m/s)	(cu.m/s)	(ha-m)
	180.35									0
PP	**180.40**	**0.00**	**1255**	**0**			**0**	**0.000**	**0.000**	**0.000**
	180.45	0.05	1301	64			64	0.000	0.000	0.006
	180.50	**0.10**	**1347**	**130**			**130**	**0.000**	**0.000**	**0.013**
	180.55	0.15	1393	199			199	0.020	0.020	0.020
	180.60	**0.20**	**1439**	**269**			**269**	**0.029**	**0.029**	**0.027**
	180.65	0.25	1485	342			342	0.036	0.036	0.034
	180.70	**0.30**	**1531**	**418**			**418**	**0.042**	**0.042**	**0.042**
	180.75	0.35	1576	495			495	0.047	0.047	0.050
	180.80	**0.40**	**1622**	**575**			**575**	**0.051**	**0.051**	**0.058**
	180.85	0.45	1668	658			658	0.055	0.055	0.066
	180.90	**0.50**	**1714**	**742**			**742**	**0.059**	**0.059**	**0.074**
	180.95	0.55	1760	829			829	0.063	0.063	0.083
ED Volume	**181.00**	**0.60**	**1806**	**918**	**4077**	**0**	**918**	**0.066**	**0.066**	**0.092**
	181.05	0.65	1872	1010	5632	243	1253	0.069	0.069	0.125
	181.10	**0.70**	**1938**	**1106**	**7188**	**563**	**1669**	**0.072**	**0.072**	**0.167**
	181.20	0.80	2004	1303	8743	1360	2662	0.078	0.078	0.266
	181.30	**0.90**	**2070**	**1506**	**10298**	**2312**	**3818**	**0.084**	**0.084**	**0.382**
	181.40	1.00	2136	1717	11854	3419	5136	0.089	0.089	0.514
100 YR HWL	**181.50**	**1.10**	**2202**	**1934**	**13409**	**4683**	**6616**	**0.093**	**0.093**	**0.662**
	181.60	1.20	2268	2157	14965	6101	8258	0.098	0.098	0.826
	181.70	**1.30**	**2334**	**2387**	**16520**	**7676**	**10063**	**0.102**	**0.102**	**1.006**
	181.80	1.40	2400	2624	18075	9405	12029	0.107	0.107	1.203
	181.90	**1.50**	**2466**	**2867**	**19631**	**11291**	**14158**	**0.111**	**0.111**	**1.416**
Regional	182.00	1.60	2532	3117	21186	13331	16448	0.115	0.115	1.645
	182.10	**1.70**	**2652**	**3376**	**23306**	**15556**	**18932**	**0.118**	**0.118**	**1.893**
	182.20	1.80	2771	3647	25426	17993	21640	0.122	0.122	2.164
TOB	**182.30**	**1.90**	**2891**	**3930**	**27546**	**20641**	**24572**	**0.125**	**0.125**	**2.457**

CROZIER & ASSOCIATES
Consulting Engineers

Project:	Third St/High St
Project No.:	183-2697
File:	Pond Hydraulic Design
Design by:	T. MacDougall
Date:	9-Apr-15

EXTENDED DETENTION SPECIFICATIONS

Extended Detention Volume (Area x runoff from 25mm event)		920
t (drawdown time - seconds, *hours in italics*)	*34.0*	122400
Ao (cross section area of orifice - sqm)		0.033
h (maximum water elevation above orifice for extended detention- m)		0.60
C (discharge coefficient)		0.64
Ap (average surface area for extended detention - sqm)		7408

t = 2*Ap*(h^0.5)/(C*Ao*(g*2)^0.5)

Ao = 0.03307468 m d = 205 mm (max dia to provide control)

Extended Detention Orifice Diameter (as designed) d = **205** mm

FIGURES

Figure 1: Site Location

Figure 2: Draft Plan

Figure 3: Preliminary Sanitary Servicing Plan

Figure 4: Preliminary Watermain Servicing Plan

Figure 5: Preliminary Trunk Storm Sewer Routing Plan

Figure 6: Preliminary Grading and Drainage Plan

Figure 7: Stormwater Management Facility Plan

Figure 8: Phase 1 Drainage Plan

CROZIER & ASSOCIATES
Consulting Engineers

THE HARBOUREDGE BUILDING,
40 HURON STREET, SUITE 301,
COLLINGWOOD, ON L9Y 4R3
705 446-3510 T
705 446-3520 F
WWW.CFCROZIER.CA
INFO@CFCROZIER.CA

PROJECT: WEST END COMMERCIAL		DRAWN BY: J.O.	PROJECT No.: 183-2697-701
		DATE: April 9, 2015	SCALE: N.T.S.
TITLE: SITE LOCATION		DRAWING No.: FIG. 1	

J:\100\183 - Landex Projects\2697 - 20 High St\Cad\2697_701.dwg, Model, 4/9/2015 11:40:19 AM, joneill

DRAFT PLAN OF SUBDIVISION
PART OF THE SOUTH HALF OF LOT 44
CONCESSION 10
PART OF THE NORTH HALF LOT 43
CONCESSION 10
(FORMERLY TOWNSHIP OF NOTTAWASAGA)
AND LOTS 1, 2, 10, 12, 14, 16
AND 18 TO 32 BOTH INCLUSIVE
AND DUNDONALD STREET AND
PART OF THIRD STREET AND
PART OF THE LANES ADJACENT THERETO
REGISTERED PLAN 484
TOWN OF COLLINGWOOD
COUNTY OF SIMCOE

SCALE 1:1250

0 5 10 15 20 40 METRES

ZUBEK, EMO, PATTEN & THOMSEN LTD.
2015

METRIC
DISTANCES ON THIS PLAN ARE IN METRES AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048

ADDITIONAL INFORMATION REQUIRED UNDER SECTION 51(17) OF THE PLANNING ACT

A. AS SHOWN
B. AS SHOWN
C. AS SHOWN
D. AS SHOWN
E. AS SHOWN
F. AS SHOWN
G. AS SHOWN
H. MUNICIPAL WATER SUPPLY
I. CLAY LOAM
J. AS SHOWN
K. MUNICIPAL SANITARY SEWERS
L. AS SHOWN

LAND USE SCHEDULE

PROPOSED LAND USE	AREA (ha)
BLOCKS	
1 COMMERCIAL	10.072
2 COMMERCIAL	5.964
3 COMMERCIAL	2.708
4 COMMERCIAL	1.019
5 ROAD WIDENING	0.057
ROADS	
STREET A	1.215
TOTAL	21.035

SURVEYOR'S CERTIFICATE

I CERTIFY THAT:
THE BOUNDARIES OF THE LANDS TO BE SUBDIVIDED AND THEIR RELATIONSHIP TO THE ADJACENT LANDS ARE ACCURATELY SHOWN ON THIS PLAN.

APRIL , 2015 _____ O.L.S.
LYNN H. PATTEN
ONTARIO LAND SURVEYOR
COLLINGWOOD

OWNER'S CERTIFICATE

LANDEX EQUITY CORPORATION HEREBY AUTHORIZES THE SUBMISSION OF THIS DRAFT PLAN OF SUBDIVISION TO THE TOWN OF COLLINGWOOD PLANNING DEPARTMENT

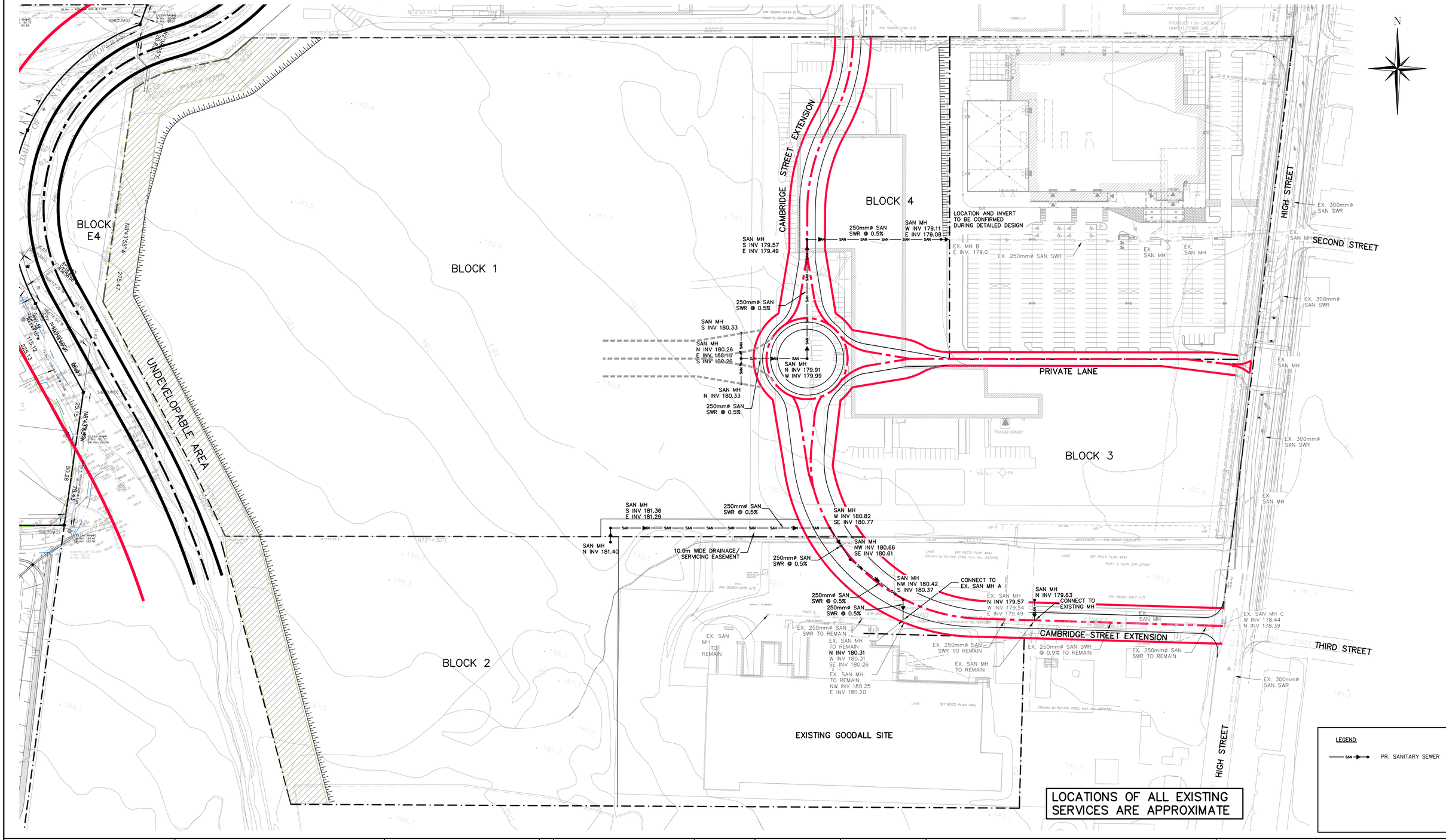
APRIL , 2015

PER _____
LARRY DUNN

ZUBEK, EMO PATTEN & THOMSEN LIMITED
ONTARIO LAND SURVEYORS
39 STEWART ROAD
COLLINGWOOD, ONTARIO L9Y 4M7
PHONE: (705) 445-4910 FAX: (705) 445-5866

JOB No.67-67 SURVEY FOR: LANDEX EQUITY CORP.

DGN FILE: C:\DGN\ 2015-DCV 67-67DP.DGN



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TEMPORARY BENCHMARKS

TBM#1–
TBM#2–
TBM#3–

Town

No.	ISSUE / REVISION	DATE: MM/DD/YYYY
0	ISSUED FOR CLIENT REVIEW	02/20/2015
1	ISSUED FOR DRAFT PLAN APPROVAL	04/09/2015

Engineer

Engineer

Project

WEST END COMMERCIAL
TOWN OF COLLINGWOOD

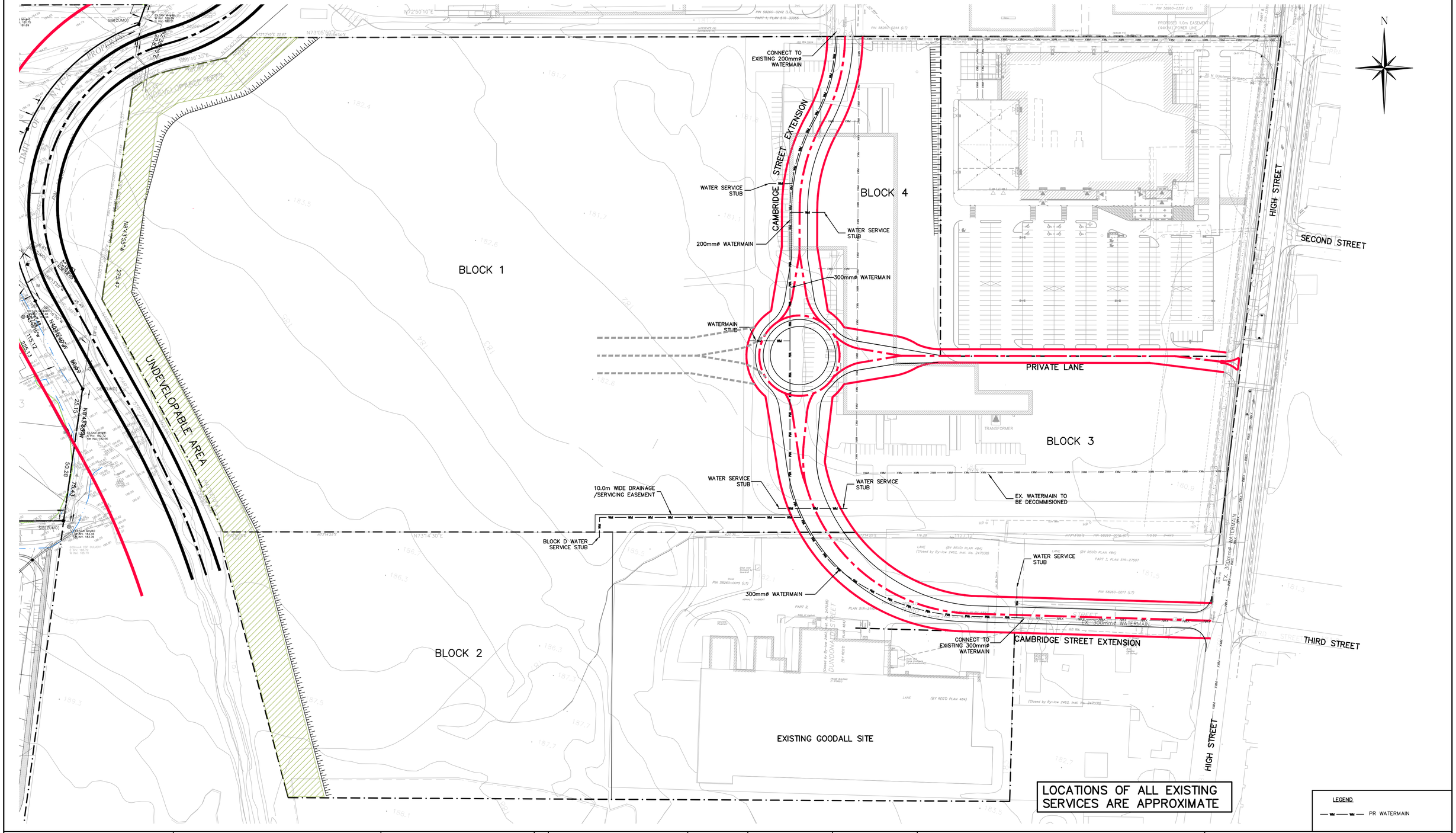
Drawing

PRELIMINARY SANITARY SERVICING PLAN

CROZIER & ASSOCIATES Consulting Engineers
THE HARBOUREDGE BUILDING,
40 HURON STREET, SUITE 301,
COLLINGWOOD, ON L9Y 4R3
705 446-3510 T
705 446-3520 F
WWW.CFCROZIER.CA
INFO@CFCROZIER.CA

Drawn By	Design By	Project
L.W.	L.W.	183–2697
Scale	Date	Check By	Drawing
1:1000	08/01/2014	D.T.	FIG. 3

J:\100\183 – Landex Projects\2697 – 20 High St\Cad\2697_750–7xx.dwg, FIG. 3, 4/10/2015 8:58:02 AM, jonell



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4. DO NOT SCALE THE DRAWINGS.
5. ALL EXISTING UNDERGROUND UTILITIES TO BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO CONSTRUCTION.

TEMPORARY BENCHMARKS

TBM#1–
TBM#2–
TBM#3–

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0	ISSUED FOR CLIENT REVIEW	02/20/2015
1	ISSUED FOR DRAFT PLAN APPROVAL	04/09/2015

Engineer

Engineer

Project

WEST END COMMERCIAL
TOWN OF COLLINGWOOD

Drawing

PRELIMINARY WATER DISTRIBUTION PLAN

CROZIER & ASSOCIATES Consulting Engineers
THE HARBOUREDGE BUILDING,
40 HURON STREET, SUITE 301,
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L.W.	L.W.	183–2697
Scale	Date	Check By	Drawing
1:1000	08/01/2014	D.T.	FIG. 4

J:\100\183 – Landex Projects\2697 – 20 High St\Cad\2697_750–7xx.dwg, FIG. 4, 4/10/2015 8:58:48 AM, jnelli

N

MOUNTAIN ROAD

CHANNEL INVERT = 178.50

INV. 179.30

EX. CULVERT
W INV. = 179.35
E INV. = 179.26

CROSSING
STM INV. 179.39
SAN OBV. 179.05

375mmø STM SWR @ 0.25%

VERTICAL AND HORIZONTAL ALIGNMENT TO BE DETERMINED AT THE DETAILED DESIGN STAGE.

EX. 200mmø W/M

EX. 250mmø SAN SWR

BLACK ASH CREEK

EX. 200mmø W/M

EX. 525mmø STM SWR @ 0.2% TO REMAIN

EX. 450mmø STM SWR @ 0.2% TO REMAIN

FIRST STREET EXTENSION

EX. 23.5m–450mmø CSP

EX. 375mmø STM SWR @ 0.2% TO REMAIN

REGISTERED PLAN 215

375mmø STM SWR @ 0.25%

EX. 300mmø STM SWR @ 0.2%

CAMBRIDGE STREET

HIGH STREET

STM INV. 180.15

CONNECT TO EXISTING 200mmø WATERMAIN

BLOCK 1

BLOCK 4

LOCATIONS OF ALL EXISTING SERVICES ARE APPROXIMATE

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WEST END COMMERCIAL
TOWN OF COLLINGWOOD

Drawing
PRELIMINARY TRUNK SEWER ROUTING PLAN

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		Drawing: FIG. 5

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BAC
181.2 CHANNEL INVERT
183.5 REGIONAL FLOOD ELEVATION

BAC
182.3 CHANNEL INVERT
184.4 REGIONAL FLOOD ELEVATION

BAC
183.35 CHANNEL INVERT
185.70 REGIONAL FLOOD ELEVATION

BAC
183.75 CHANNEL INVERT
186.05 REGIONAL FLOOD ELEVATION

BLOCK 1

BLOCK 2

BLOCK 3

BLOCK 4

REFER TO FIG 7 FOR SWM FACILITY PLAN

REFER TO FIGURE 1 IN APPENDIX D FOR EXTERNAL DRAINAGE AREA

CONNECT TO EXISTING 300mmø STM SWR INV. 180.30

EXISTING HOME DEPOT LANE TO BE MAINTAINED

EX. 450mmø STM SWR @ 0.12%

EX. 450mmø STM SWR @ 0.2%

EX. 450mmø STM SWR

EX. OUTLET CONTROL STRUCTURE

EX. SWM POND

CAMBRIDGE STREET EXTENSION

HIGH STREET

SECOND STREET

THIRD STREET

PRIVATE LANE

SWM POND OVERLAND FLOW ROUTE

STM INV. 180.00
(INVERT TO BE CONFIRMED AT DETAILED DESIGN)

EX. 66.0m–675mmø STM SWR @ 0.5%

EX. 35.0m–675mmø STM SWR @ 0.5%

EX. 675mmø STM SWR

EX. STM MH
S INV 179.12
N INV 179.95

EX. STM MH#2
W INV. 179.50
E INV 179.47
N INV 179.50

EX. STM MH#1
E INV 179.27
W INV 179.30

EX. STM MH#7

EX. STM MH#8

EX. STM MH#10

EX. STM MH#11

EX. STM MH#6

EX. STM MH#5

EX. STM MH#4

EX. CBMH#1

EX. CBMH#2

EX. CBMH#9

EX. CB#12

EX. CB#11

EX. CB#5A

EX. CB#5

EX. CB#10

EX. STM MH
STM MH
S INV 179.50±

EX. 1050mmø STM SWR

STUB

EX. STM MH#48
N INV. 179.57
S INV. 179.57

EX. 1050mmø STM SWR

EX. STM MH#44
N INV. 179.80
S INV. 179.81

EX. 1050mmø STM SWR

EX. STM MH#41
N INV. 179.93
S INV. 179.94

EX. 1050mmø STM SWR

EX. STM MH#39

EX. 975mmø STM SWR @ 0.3%

EX. STM MH
INV. 180.05

STM OBV. 182.10

STM OBV. 181.30

STM OBV. 181.00

ORIFICE CONTROL

1050mmø STM SWR @ 0.2%

PR. DITCH INLET

EX. INTERCEPTOR SWALE

EX. DRAINAGE SWALE

10m DRAINAGE/SERVICE EASEMENT

10m DRAINAGE EASEMENT

R5 0.16 70%

R6 0.20 70%

R4 0.48 70%

201 2.30 90%

B1 0.33 85%

B2 0.73 85%

C 0.68 85%

POND 15.0 85%

GOODALL 2.91 70%

EXISTING GOODALL SITE

NOTE: EX. 675mmø STM INVERTS PER STANTEC HOLDBORN REPORT (FIG. 8 – STORMWATER MANAGEMENT PLAN, OCT. 2006)

LOCATIONS OF ALL EXISTING SERVICES ARE APPROXIMATE

LEGEND

- X 183.00 MINIMUM FINISHED GRADES
- PR. SLOPE DIRECTION
- PR. SWALE DIRECTION
- PR. STORM SEWER
- DRAINAGE AREA
- DRAINAGE DIRECTION
- AREA ID
- % IMPERVIOUS
- AREA (ha)
- SUBCATCHMENT ID (HOME DEPOT)
- % IMPERVIOUS
- AREA (ha)

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TOWN OF COLLINGWOOD

Drawing
WEST END COMMERCIAL
REGIONAL SWM FACILITY

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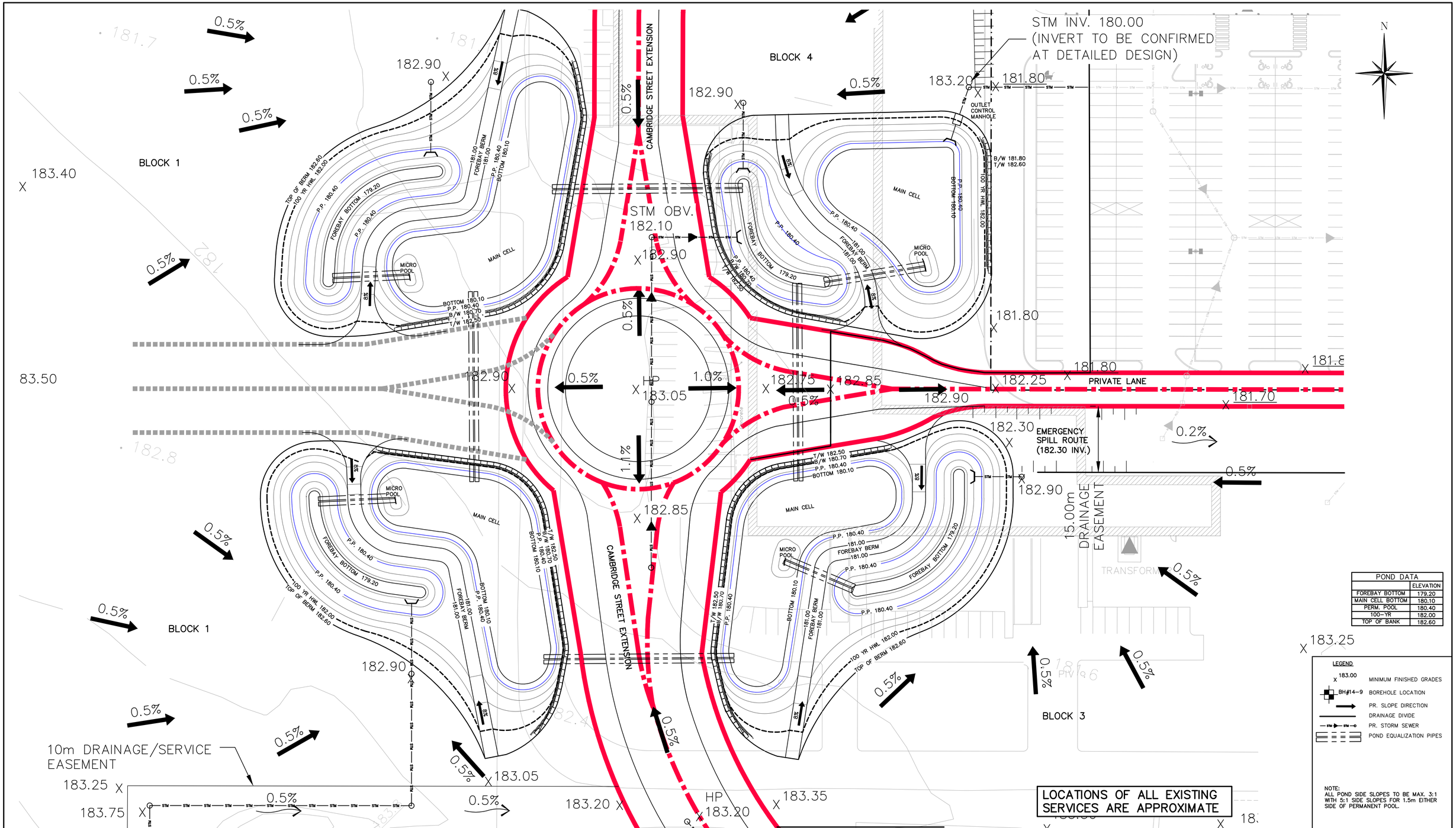

POND DATA	
	ELEVATION
FOREBAY BOTTOM	179.20
MAIN CELL BOTTOM	180.10
PERM. POOL	180.40
100-YR	182.00
TOP OF BANK	182.60

LEGEND

- X 183.00 — MINIMUM FINISHED GRADES
- BH#14-9 — BOREHOLE LOCATION
- PR. SLOPE DIRECTION
- DRAINAGE DIVIDE
- PR. STORM SEWER
- POND EQUALIZATION PIPES

NOTE:
ALL POND SIDE SLOPES TO BE MAX. 3:1 WITH 5:1 SIDE SLOPES FOR 1.5m EITHER SIDE OF PERMANENT POOL.

LOCATIONS OF ALL EXISTING SERVICES ARE APPROXIMATE

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STORMWATER MANAGEMENT
FACILITY PLAN

CROZIER & ASSOCIATES Consulting Engineers
THE HARBOUREDGE BUILDING,
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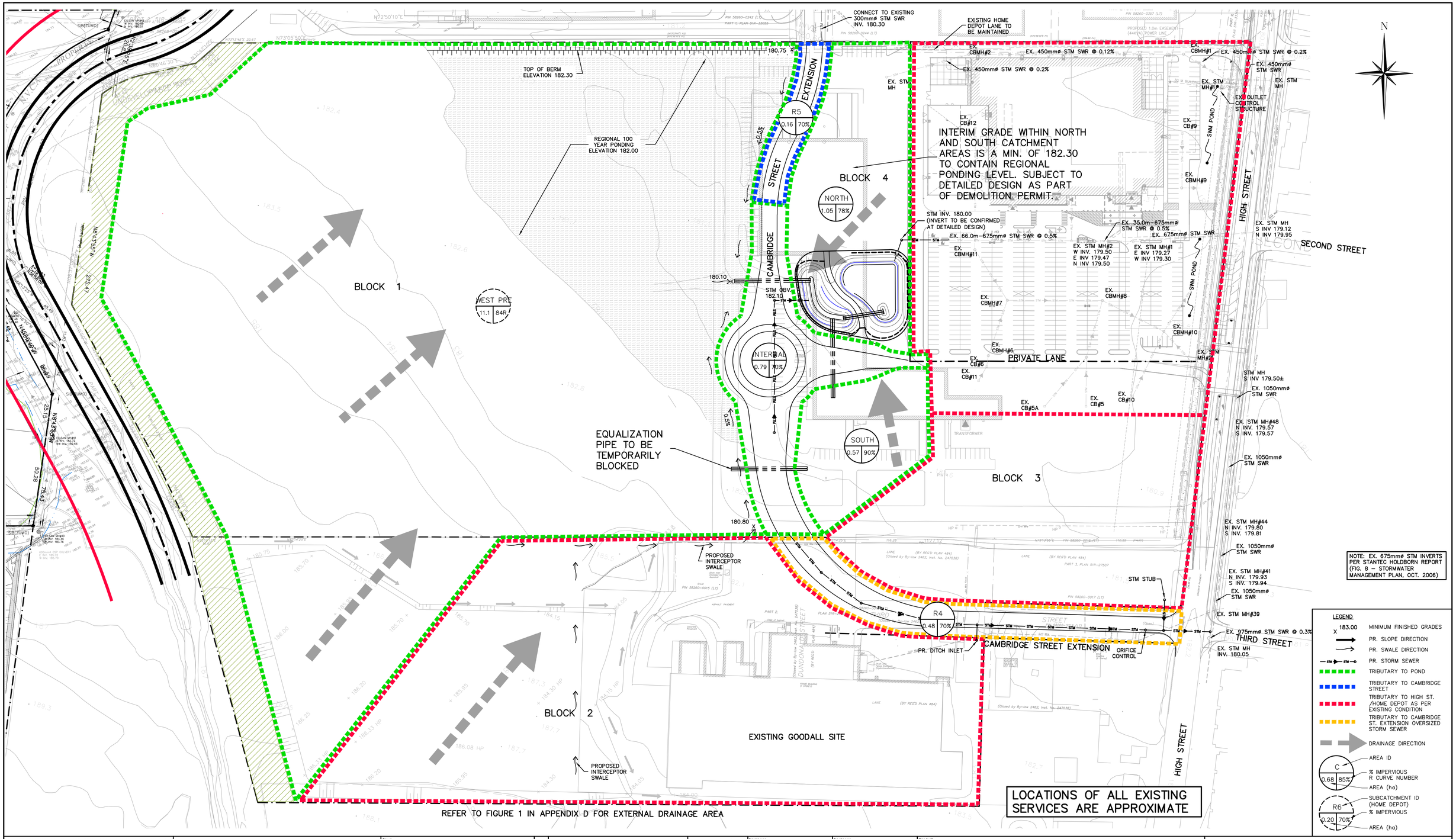
Scale: 1: 400	Date: 08/01/2014	Check By: D.T.
		Drawing: FIG. 7

J:\100\183 – Landex Projects\2697 – 20 High St\Cad\2697_750-7xx.dwg, FIG. 7, 4/10/2015 9:01:46 AM, jnell



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WEST END COMMERCIAL
TOWN OF COLLINGWOOD

Drawing

WEST END COMMERCIAL
PHASE 1 GRADING AND DRAINAGE PLAN

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