FUNCTIONAL STORMWATER MANAGEMENT REPORT

EDGEWOOD SUBDIVISIONS
MT. BRYDGES, ONTARIO

LDS PROJECT NO. LD-00135

JULY 17, 2024

Submitted to:

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Distribution (via email):

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1960726 Ontario Inc.

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1. INTRODUCTION

1.1 Overview

1960726 Ontario Inc. has retained LDS Consultants Inc. (LDS) to investigate and develop a stormwater management (SWM) strategy for the Edgewood subdivision. The development is situated in the southwestern most quadrant of the Village of Mount Brydges, directly northeast of the intersection of Parkhouse Drive and Rougham Road. The combined 40-hectare site consists primarily of agricultural land for fallow production, woodlots and locally significant wetlands. The subject property also provides a headwater function to the east and west tributaries of Mill Creek, situated to the north of Parkhouse Drive. The site is bounded by existing single-family residential developments on Pamela Drive and Church Street to the north and east, Rougham Road and agricultural lands to the west, and Parkhouse Drive and agricultural lands to the south. A site location plan is presented in **Figure 1**. The site will be developed into 168 single-family lots, one stormwater management block and multiple parkland and open space blocks.

The report materials that follow identify the proposed SWM strategy for the development area, including overland flow paths, drainage catchment area sizes and limits, and confirmation that the size of the SWM block is designed to accommodate the required water quality and quantity criteria. The catchment parameters are confirmed with the site's topographic survey.

1.2 Background Information

The following reports were reviewed and referenced to assist in the development of the stormwater management strategy for the Edgewood subdivision and future development:

- Geotechnical Investigation – Edgewood Subdivision, prepared by LDS Consultants Inc., dated May 2017.
- Hydrogeological Assessment – Edgewood Subdivision, prepared by LDS Consultants Inc., dated January 4th, 2018.
- Hydrogeological Assessment – Rougham Road & Parkhouse Drive Subdivision, prepared by LDS Consultants Inc., dated December 10th, 2019.
- Hydrogeological Assessment – Edgewood Subdivision Phase 2, prepared by LDS Consultants Inc., dated November 17th, 2021.
- Consolidated Report and Construction Monitoring Recommendations, prepared by LDS Consultants Inc., dated July 10th, 2023.
- Fluvial Geomorphological Assessment, prepared by Ecosystem Recovery Inc., dated October 16th, 2019.
- Stormwater Management Planning and Design Manual, prepared by MOE, dated March 2003.
- Servicing Standards, prepared by Strathroy-Caradoc, dated October 2021.

1.3 Stormwater Management Criteria

Based on the MOE Manual and the Municipalities' standards, the stormwater management criteria for the proposed development are as follows:

Water Quality Control – Ministry of Environment, Climate and Parks (MECP) "Enhanced" Level Protection should be provided to remove 80% of the total suspended solids from the stormwater before discharge to the receiving watercourse.

Water Quantity Control – Post-development flow rates will not exceed existing flow rates established for the 5-year to 250-year storm event.

Erosion Control – During construction, erosion control measures will be implemented to minimize sediment transport from the site.

2. EXISTING CONDITIONS

The site is currently an agricultural area bordered by agrarian lands to the west and south, existing residential lots to the north and east, and Parkhouse Drive and Rougham Road to the south and west, respectively. It is slightly undulating and is utilized for standard fallow production, such as corn, winter wheat, and soybeans.

2.1 Summarized Site Soils and Ground Water Conditions

Based on the Geotechnical Investigations prepared by LDS, the soil on the site generally surfaced with a thin veneer of topsoil between 200mm and 300mm thick. The topsoil has an underlying layer of sand. A layer of sandy silt underlies some areas of the site. Overall, the soils on site will be classified as Hydrologic Soil Group A.

Groundwater conditions were also investigated as part of the Hydrogeological Assessments. Like the drainage divide, the groundwater divide also transects the property and correlates closely with delineating drainage areas to their respective outlets. Groundwater elevations range from 0.1 – 3.3 meters below the ground surface across the site.

2.2 Existing External Drainage Area and Municipal Drain No. 2

A municipal drain conveys minor system flows from the existing developed area east of the Edgewood subdivision (Parcel 3) to a ravine headwater feature located on the north side of Parkhouse Drive along the south limit of Parcel 2. The drain comprises a twin pipe system and measures approximately 195m in length. Based on a review of as-built drawings and site inspection of the drain outlets, the drains are 450mm and 525mm in diameter, are in poor condition and are constructed of concrete pipe and cement tile drains. The municipal drain terminates approximately 120m upstream of the east culvert under Parkhouse Drive. The following catchment is described below and is illustrated in **Figure 2**.

Catchment EX-1 - This catchment area is represented by Parcel 3 and consists of a portion of the existing developed Village of Mount Brydges. Minor system flows from this area drain to the East Tributary via the existing municipal drainage system. Major overland flows from this catchment discharge directly to Mill Creek from the Parkhouse Drive ROW.

2.3 Existing Drainage Areas

The following catchments, described in more detail below, currently drain to Mill Creek.

Catchment 101 - This catchment area represents arable farmland and the northern woodlot. Surface water travels as shallow overland sheet flow to the woodlot.

Catchment 102 - This catchment area represents arable farmland and the central woodlot. Surface water travels as shallow overland sheet flow to the woodlot.

Catchment 103 - This catchment area represents arable farmland. Surface water travels as a shallow overland sheet flow to the West Tributary of Mill Creek.

Catchment 104 - This catchment area represents arable farmland. Surface water travels as a shallow overland sheet flow to the East Tributary of Mill Creek.

Catchment 105 - This area comprises a portion of the Parkhouse Drive ROW and several existing residential properties fronting Parkhouse Drive, which drain to the East Tributary.

Catchment 106 - This area comprises a portion of the Parkhouse Drive ROW, which drains to the West Tributary.

Catchment 107 - This catchment area comprises a portion of the Rougham Road ROW, which drains to the Parkhouse Drive ROW and outlets to the West Tributary.

Catchment 108 - This area comprises a portion of the Rougham Road ROW, which drains to the Central Woodlot.

Catchment 109 - This catchment area comprises a portion of the Rougham Road ROW, which drains to the Pilkington Drain west of Rougham Road.

2.4 Existing Conditions Hydrologic Modeling

As previously discussed, storm runoff generated from the Edgewood subdivision and neighbouring properties outlet to five separate areas under pre-development conditions, with a large portion of the area draining to the two tributaries at the headwater of Mill Creek. A hydrologic model has been created to model these nine (9) catchments under existing conditions. The areas have been delineated as Catchment Areas 101, 102, 103, 104, 105, 106, 107, 108 and 109 to represent the existing properties (Refer to **Figure 2** – Existing Conditions Drainage Area Plan).

The existing conditions were assessed using the SWMHYMO hydrologic modelling program developed by J.F. Sabourin & Associates for the Municipality of Strathroy-Caradoc IDF curve and the Modified Chicago Storm Distribution with a 3-hour duration.

The existing peak runoff flow rates at the downstream outlet to Mill Creek were established for the design storm events. **Table 1** summarizes the flow rates for each storm event at the respective downstream outlet.

Table 1 - Existing Condition Peak Discharges

Design Storm Event	**Total to East Tributary** (m^3/s)	**Total to West Tributary** (m^3/s)	**Total to Ravine** (m^3/s)	**Total to North Woodlot** (m^3/s)	**Total to Central Woodlot** (m^3/s)	**Total to Pilkington Drain** (m^3/s)
5-year	1.992	0.118	2.110	0.050	0.073	0.009
10-year	2.421	0.167	2.588	0.074	0.104	0.013
25-year	2.962	0.242	3.204	0.111	0.153	0.019
50-year	3.346	0.310	3.656	0.147	0.199	0.024
100-year	3.693	0.372	4.065	0.179	0.240	0.029
250-year	4.129	0.473	4.602	0.235	0.311	0.036

3. INTERIM DEVELOPMENT AND SWM STRATEGY

As illustrated in Figure 3, the total area tributary to the SWM facility (SWMF) under interim development conditions is 12.3 hectares.

3.1 Interim Area Grading

A grading design for Phase 1 and 2 of the Edgewood subdivision, establishing proposed road profiles and site grades, has been produced and used to guide the functional design of the SWMF. This grading design exercise considers multiple and, at times, competing factors. These factors include but are not necessarily limited to municipal servicing constraints, overland flow routing, groundwater conditions, boundary grading, and maintenance of environmental features. Fill will be imported to ensure basement slabs are established above the measured high groundwater elevations.

3.2 Interim Development Conditions

As previously mentioned, the existing Edgewood property will become a subdivision, covering an area of approximately 19.3 ha. The development consists primarily of single-family residential lots, open space blocks, and a SWMF providing quantity and quality control. As discussed, the SWMF will be constructed to service both phases of the Edgewood property. Most of the proposed Edgewood development drains to the SWMF via a proposed storm sewer system that will be sized to convey the Municipality of Strathroy-Caradoc's 5-year storm event. The SWMF will discharge stormwater through an outlet structure, which will flow directly to the East Tributary. The Fluvial Geomorphological Assessment states that the tributary will be improved to suit the external catchment area to convey stormwater to Mill Creek (ERI, 2019). Due to site topography, portions of the Edgewood development will drain uncontrollably into existing natural areas.

The interim development drainage area was delineated into fourteen (14) sub-catchments. Section 2.3 briefly describes each sub-catchment area remaining unchanged in the interim condition. Sections 3.3 and 3.4 describe each newly delineated sub-catchment area. **Figure 3** illustrates the interim development drainage catchment areas.

3.3 External Drainage Areas

An existing municipal drain conveys storm flows from Church Street that run through the east portion of Parcel 2. This drain, approximately 315 meters in length, drains a part of the existing Village of Mount Brydges and thus will remain and be accommodated under existing conditions. Currently, 195 meters of the drain comprises a piped conveyance system. To facilitate the planned development, 120 meters of the drain traversing the Edgewood subdivision will be removed and upgraded to a single piped conveyance system, similar in capacity, and directed to the East Tributary within the former Hydro One corridor. In the interim and ultimate development scenario, the following catchment will drain through and around the Edgewood property.

Catchment EX-1 – This catchment area is represented by Parcel 3 and consists of a portion of the existing developed Village of Mount Brydges. Minor system flows from this area drain to the East Tributary via the upgraded municipal drainage system. Major overland flows from this catchment discharge directly to Catchment 207.

3.4 Interim Drainage Areas

Catchment 201 – This catchment comprises the existing woodlot and the rear yards of the single-family residential lots adjacent to the natural area. Since the rear yard runoff is clean, it can be discharged as sheet flow to the adjacent undeveloped regions. However, because it is relatively undeveloped and isolated from the rest of the development, providing peak flow attenuation to the catchment runoff is not feasible.

Catchment 202 – The Edgewood subdivision's central portion comprises single-family residential development. Stormwater from this catchment is conveyed directly to the north inlet of the proposed SWMF by proposed local storm sewers and ROW's.

Catchment 203 – This catchment represents SWM Block 122 and the rear yards of the single-family residential lots adjacent to the East Tributary (Block 121).

Catchment 204 – This area represents arable farmland and the remaining portion of the northern wood lot area. The footprint of this catchment falls on the north side of the future development. Runoff travels as shallow overland sheet flow to the wood lot.

Catchment 205 – This catchment area represents arable farmland, the central woodlot and the rear yards of the single-family residential lots adjacent to the east perimeter of the woodlot. Runoff travels as shallow overland sheet flow to the woodlot. Since the rear yard runoff is clean, it can be discharged as sheet flow to the adjacent undeveloped regions. The area is relatively undeveloped and isolated from the rest of the development, so providing peak flow attenuation to the catchment runoff is not feasible.

Catchment 206 – This catchment area represents arable farmland. The footprint of this catchment falls on the south side of the future development. Runoff travels as a shallow overland sheet flow to the West Tributary of Mill Creek.

Catchment 207 – This area represents the eastern portion of the Parkhouse Drive ROW reconstruction and existing single-family residential lots. Stormwater from this catchment is conveyed by proposed storm sewers to the local sewers on Edgewood Lane directly to the north inlet of the proposed SWMF. Major flows are directed toward Catchment 208.

Catchment 208 – This area represents the central east portion of the Parkhouse Drive ROW re-construction and existing single-family residential lots. Stormwater from this catchment is conveyed by proposed storm sewers to the local sewers on Trillium Way directly to the north inlet of the proposed SWMF. Major flows are directed towards the East Tributary via the Parkhouse Drive ROW.

Catchment 209 – This area represents the central west portion of the Parkhouse Drive ROW reconstruction and existing single-family residential lots. Proposed storm sewers convey stormwater from this catchment to the West Tributary. An oil and grit separator treats stormwater from this area to remove 80% of the total suspended solids from the catchment runoff. Major flows are directed towards the East Tributary via the Parkhouse Drive ROW.

Catchment 210 – This area represents the western portion of the Parkhouse Drive ROW reconstruction. Proposed storm sewers convey stormwater from this catchment to the West Tributary. An oil and grit separator treats stormwater from this area to remove 80% of the total suspended solids from the catchment runoff. Major flows are directed towards the West Tributary via the Parkhouse Drive ROW.

3.5 Interim Development Pond Construction Staging

The Edgewood development will proceed in phases. Phase 1 comprises SWM Block 122 and Lots 1-114. Phase 2 will include the remainder of the Edgewood lands. The final construction phase will involve the future development of the west agricultural field.

The pond will also be constructed in stages; Stage 1 will include the complete construction of the inlet and outlet structures and the forebay construction. The main wet cell is sized to accommodate the volumes required for both phases of the Edgewood development and the future development to the west. Any surface flow from undeveloped areas will be directed away from the SWMF and flow uncontrolled to the rear of the lots, where possible. Landscaping of the forebay area would also be completed during Stage 1 of the pond construction. The layout constructed for Stage 1 will be capable of servicing both developments in the ultimate condition.

Stage 2 will include the full development of the remainder of the Edgewood development. The alteration and reconstruction of Block 121 from a headwater feature to an augmented wetland feature upstream of Parkhouse Drive is required to prevent localized erosion at the outlet caused by the external drainage catchment area (Parcel 3). Again, undeveloped areas will be directed away from the SWMF and flow uncontrolled to the uncontrolled outlets or rear of the lots.

4. ULTIMATE DEVELOPMENT AND SWM STRATEGY

The total area tributary to SWMF under ultimate development conditions is 20.5 hectares, as illustrated in **Figure 4.**

4.1 Ultimate Area Grading

An ultimate Finished Lot Grading Plan for the future development to the west illustrating finished road and site grades has been produced and used for the SWM design. The grading design of the site is controlled by many factors, including servicing constraints (both sanitary and storm), groundwater elevations, matching existing grades along the adjacent properties and environmental features. Fill will be imported to ensure basement slabs are above the measured groundwater elevations.

4.2 Ultimate Development Conditions

As previously mentioned, the existing property to the west will be developed in the future and will cover an area of approximately 20.7 ha. The SWMF will be constructed to service the Edgewood subdivision and future development. Most of the western development drains to the SWMF via a proposed storm sewer system that will be sized to convey the Municipality of Strathroy-Caradoc's 5-year storm event. The SWMF will discharge stormwater through an outlet structure, which will flow directly to Block 121. Due to site topography, portions of the future development will drain uncontrollably into the existing natural areas.

The ultimate development drainage area was delineated into fourteen (14) sub-catchments. Sections 3.3 and 3.4 briefly describe each sub-catchment area that will remain the same in the ultimate development condition. Section 4.3 provides a brief description of each newly delineated sub-catchment area. **Figure 4** illustrates the ultimate development of drainage areas.

4.3 Ultimate Drainage Areas

Catchment 301 – This catchment comprises a small portion of the existing north woodlot and the rear yards of the single-family residential lots adjacent to the natural area. Since the rear yard runoff is clean, it can be discharged as sheet flow to the adjacent natural areas. However, this region is relatively undeveloped and isolated from the rest of the proposed development, providing peak flow attenuation to the catchment runoff is not feasible.

Catchment 302 – The Edgewood subdivision's central portion and central south portion of the future development. It comprises single-family residential lotting. Stormwater from this catchment is conveyed directly to the north inlet of the SWMF by proposed local storm sewers and ROW's.

Catchment 303 – The north portion of the future development. Stormwater from this catchment is conveyed directly to the north inlet of the SWMF by proposed local storm sewers. Major flows are conveyed to Catchment 309 via local ROWs.

Catchment 304 – This catchment area represents the central woodlot and the rear yards of the single-family residential lots from the Edgewood subdivision and future development located adjacent to the perimeter of the woodlot. Runoff travels as shallow overland sheet flow to the woodlot. Since the rear yard runoff is clean, it can be discharged as sheet flow to the adjacent natural regions. The area is relatively undeveloped and isolated from the rest of the development, so providing peak flow attenuation to the catchment runoff is not feasible.

Catchment 305 – The future development's southern portion adjacent to Briscoe Avenue. An oil and grit separator treats stormwater from this area to remove 80% of the total suspended solids from the catchment runoff. Stormwater from this catchment is conveyed directly to Catchment 210 by proposed local storm sewers and ROW.

Catchment 306 – This catchment area represents the West Tributary and a portion of the future development adjacent to the natural area's perimeter. Runoff travels as shallow overland sheet flow to the headwater feature of Mill Creek. Since the rear yard runoff is clean, it can be discharged as sheet flow to the adjacent natural regions. The area is relatively undeveloped and isolated from the rest of the proposed development, so providing peak flow attenuation to the catchment runoff is not feasible.

Catchment 307 – This area represents Rougham Road's south portion. Stormwater from this catchment is conveyed overland to proposed storm sewers on Parkhouse Drive, which discharge directly to the West Tributary. Major flows flow towards Catchment 210.

Catchment 308 – This catchment area represents the central portion of Rougham Road. Stormwater from this catchment is conveyed directly to the SWMF by proposed storm sewers to local sewers on Perring Drive. Major flows are conveyed to Catchment 306.

Catchment 309 – This area represents Rougham Road's north portion. Stormwater from this catchment is conveyed directly to the SWMF by proposed storm sewers to local sewers on Perring Drive. Major flows are conveyed to Catchment 303.

4.4 Ultimate Development Pond Construction Staging

The final stage of pond construction will include future development to the west. The full and final configuration of the pond, including all the landscaping within the main wet cell area, will be completed during Phase 1 of the Edgewood subdivision. Inspections should be made before the municipality assumes the SWMF to ensure it functions properly.

5. STORMWATER MANAGEMENT DESIGN

5.1 Hydrologic Modeling

A hydrologic model was developed to provide a quantitative estimate of flows across the site under existing and proposed development conditions and to design a SWM system capable of meeting the criteria previously outlined in Section 1.3. The storm event simulations were completed using the SWMHYMO hydrologic modelling program (JF Sabourin and Associates). Existing and proposed development conditions were modelled for the following:

- Quality event (25mm depth, 3-hour duration)
- 5-250-year return period rainfall events (3-hour duration)

Refer to **Appendix C** & **D** for SWMF design details and **Appendix B** for hydrologic modelling output files.

5.2 Rainfall Data

Hydrologic modelling for the Edgewood subdivision and future development utilizes the municipality of Strathroy-Caradoc Intensity-Duration Frequency (IDF) curve parameters with a Modified Chicago Storm Distribution. Precipitation files were generated using the Municipality of Strathroy-Caradoc parameters, with a 3-hour duration.

5.3 Stormwater Quality Control

The SWMF has been designed as a wet pond with a permanent pool depth of 1.06m within the forebay and 1.5m in the wet cell. These facilities offer the benefits of dilution and settling sediment within the forebay and the wet pond components. A planting scheme that carefully selects plant species and their location in and around the basin will ultimately be prepared to stabilize banks, mitigate temperature increases, deter waterfowl from nesting within the area, and provide aesthetics and safety benefits.

The SWM pond is divided into two cells. The first cell consists of a sediment forebay that will accept flows from storm sewers serving the catchment areas described in Sections 3.4 and 4.3, as shown in **Figure 3** and **Figure 4**. The second cell consists of the main wet pond/detention storage area, which will accept discharge from the sediment forebay and the rear yards of adjacent lots. The sediment forebay has been provided at the inlet point to the facility with a designed treatment level of 80% TSS removal. Maintenance of the forebay at all points in the sediment accumulation/clean-out cycle minimizes the potential for scour and resuspension of previously settled sediments.

Since most of the annual rainfall occurs in storms less than or equal to a 25mm event, most water-borne sediment is also transported to the SWMF in these less extreme events. Therefore, the sediment forebay is designed to target the smaller flows for quality control.

The portion of the future development outletting to the West Tributary will receive water quality control from an OGS device.

The portion of the Edgewood subdivision and future development tributary to the north and central woodlot will be clean runoff, which will not require quality control, as this water will be generated by rooftop areas and flow over green space before discharging into the wooded area.

5.3.1 Sediment Forebay Design

The forebay design is based on the guidance in the MECP's 2003 *Stormwater Management Practices Planning and Design Manual*. As recommended, the forebay area is less than 33% of the total permanent pool area. The methodology for classic particle settling and flow dispersion equations also suggests that the design flow for the settling length of the forebay should be taken as the peak outflow from the facility. A forebay is typically designed to treat minor storm flows. Therefore, the main pond will essentially be at its permanent pool level, and there will be no mass of water at the outlet of the forebay that would control the flow through the forebay to the main pond's discharge rate.

The forebay is designed to satisfy the following conditions:

- The settling length is based on a settling velocity of 0.0003 m/s using the main pond's peak discharge for the 25 mm event (as per MECP 2003).
- Dispersion length such that, based on the flow and depth of water, the velocity through the forebay is less than 0.5 m/s.
- Velocity based on flow divided by cross-sectional area is less than 0.15 m/s to prevent scouring.

The 2003 MECP document suggests that the clean-out frequency for the SWMF be based on the sediment loading within the entire pond. The recommended clean-out frequency for the SWMF can be found in the forebay design calculations in **Appendix C** & **D**. As noted in Section 7, it is recommended that observations of sediment accumulation within the pond be completed regularly.

5.3.2 Interim Development Water Quality Volume

The SWMF will provide quality control, servicing a total drainage area of 12.31 hectares with an average imperviousness of 42 percent. An Enhanced Level of Water Quality Control requires a unit storage volume of 159 m^3/ha. Of the unit storage volume, 40 m^3/ha represents the requirement for extended detention, while the remaining 118 m^3/ha represents the permanent pool volume requirement.

The total development area draining to the SWMF equates to a required permanent pool volume of 1,459 m^3. The main pond and forebay combine to give a total permanent pool volume of 2,766 m^3, nearly one and a half times the required volume recommended by the MECP. The permanent pool volume in the primary cell is 2,445 m^3 and 321 m^3 in the forebay. **Table 2** outlines the design of the proposed SWMF.

Table 2 - SWMF Interim Development Characteristics

Parameter	Basin Characteristics
Water Quality – Level of Protection	Enhanced – 80 % long-term S.S. removal
Total Contributing Area	12.31 ha
Total Percent Impervious (TIMP)	42%
Unit Area Storage Volume Requirements as pe SWMMP (MOE 2003)	191 m^3/ha
Forebay Bottom Elevation	241.74 m
Pond Bottom Elevation	241.30 m
Pond Top Elevation	244.20 m
Permanent Pool Volume	2,766 m^3
Permanent Pool Elevation	242.80 m
Permanent Pool Depth	1.06 – 1.5 m
Quality Extended Detention Volume	734 m^3
Quality Extended Detention Elevation	243.04 m
Forebay	
Length	40 m
Cleanout Frequency	39 years
Outlet Details	
Outlet Pipe Diameter	450 mm
Outlet Pipe Reducer Orifice Diameter	125 mm
Outlet Pipe Reducer Orifice Elevation	242.80 m
Overflow Weir Crest Length	1.25 m
Overflow Weir Crest Elevation	243.40 m

5.3.3 Ultimate Development Water Quality Volume

The SWMF will provide quality control similarly in the ultimate development scenario, servicing a total drainage area of 20.49 hectares with an average imperviousness of 44 percent. An Enhanced Level of Water Quality Control requires a

unit storage volume of 163 m^3/ha. Of the unit storage volume, 40 m^3/ha represents the requirement for extended detention, while the remaining 123 m^3/ha represents the permanent pool volume requirement.

The total development area draining to the SWMF equates to a required permanent pool volume of 2,529 m^3. The main pond and forebay combine to give a total permanent pool volume of 2,766 m^3, which exceeds the required volume recommended by the MOE. The permanent pool volume in the primary cell is 2,445 m^3 and 321 m^3 in the forebay. **Table 3** outlines the design of the proposed SWMF.

Table 3 - SWMF Ultimate Development Characteristics

Parameter	Basin Characteristics
Water Quality – Level of Protection	Enhanced – 80 % long-term S.S. removal
Total Contributing Area	20.49 ha
Total Percent Impervious (TIMP)	44%
Unit Area Storage Volume Requirements as pe SWMMP (MOE 2003)	169 m^3/ha
Forebay Bottom Elevation	241.74 m
Pond Bottom Elevation	241.30 m
Pond Top Elevation	244.20 m
Permanent Pool Volume	2,766 m^3
Permanent Pool Elevation	242.80 m
Permanent Pool Depth	1.06 – 1.5 m
Quality Extended Detention Volume	1469 m^3
Quality Extended Detention Elevation	243.26 m
Forebay	
Length	40 m
Cleanout Frequency	22
Outlet Details	
Outlet Pipe Diameter	450 mm
Outlet Pipe Reducer Orifice Diameter	125 mm
Outlet Pipe Reducer Orifice Elevation	242.80 m
Overflow Weir Crest Length	1.25 m
Overflow Weir Crest Elevation	243.40 m

5.3.4 Oil Grit Separator

Minor sewer flows will be conveyed to an OGS to be treated. The OGS device will be sized to provide an Enhanced Level of Treatment for the drainage *Catchment Area's 209, 210* and *305*. Refer to **Appendix E** for a preliminary OGS sizing sheet for the structure upstream of the West Tributary.

5.4 Stormwater Quantity Control

The SWMF will reduce post-development peak flows during design storm events to below-existing rates, thereby minimizing the impacts of this development on Mill Creek. **Tables 5** and **8** summarize all modelled flow rates contributing to Mill Creek and woodlot features.

5.4.1 Interim Development Water Quantity Function

Flows for all storm events will be conveyed to the SWMF by combining storm sewers and overland flow routes. The SWMF has been designed to capture, detain, and release the 5-year to 250-year storm event peak flows at their respective pre-development peak flow rates. The SWMF has been designed detain and release the 25mm storm event over a 24-to-48-hour period for quality control.

All minor storm event flows (5-year frequency and less) will be conveyed by storm sewers directly to the forebay via the headwall shown in LDS Drawing Sheet No. 22. Major storm flows (above the 5-year frequency) will be transmitted

to the SWM Block 122 via an overland flow route (road ROW) to the 4.15m wide turf stone access road which will direct flows to the rip-rap inlet of the forebay.

A multi-stage outlet structure has been designed for the SWMF. A 1200mm perforated CSP riser, with a bottom draw 450mm diameter outlet pipe complete with a 125mm reducer. It will control the extended detention component and the 25mm storm events. The orifice sill elevation will be set at the permanent pool elevation of 242.80m. The 125mm diameter orifice will be placed on the pond outlet structure to limit the outflow to the designed rate. As mentioned previously, *Catchment Area 201* will drain uncontrolled. Thus, the Edgewood subdivision SWMF discharges will be overcontrolled to achieve the target discharges to the East Tributary. This outlet controls all storm events, including the 250-year storm event.

An overflow spillway has been provided for the facility in the form of a 1.25m long weir within the pond rim berm. The crest is set at an elevation of 243.40m and will spill to the headwall in Block 121. This headwall will capture the overland flow from the pond's outlet structure and improved Municipal Drain No. 2. The overland flows will be combined with the piped controlled flow and outlet to a concrete storm pipe culvert crossing underneath Parkhouse Drive, which ultimately flows to Mill Creek. A stage-storage-discharge relationship for the SWMF is shown below in **Table 4.**

Detailed stage-storage-discharge relationship for the SWMF is provided in **Appendix C**. SWMHYMO modelling output is provided in **Appendix B**.

Table 4 - Interim Development Condition Stage-Storage-Discharge Information

Stage (m)	**Active Storage** (m^3)	**Discharge** (m^3/s)	**Notes**
242.80	0	0.000	Permanent Pool (125 mm Orifice Invert)
242.90	292	0.011	
243.00	599	0.015	
243.10	921	0.019	
243.20	1257	0.022	
243.30	1609	0.024	
243.40	1977	0.027	1.25 m Weir Invert
243.50	2355	0.120	
243.60	2743	0.340	
243.70	3139	0.697	
243.80	3544	1.206	
243.90	3958	1.880	
244.00	4382	2.734	
244.10	4815	3.779	
244.20	5258	5.029	Top of Pond

A summary of the post-development peaks flows to the East Tributary, West Tributary, Northern Woodlot, Central Woodlot and Pilkington Drain from the subject lands are provided in **Table 5**.

Table 5 - Interim Development Condition Peak Discharges

Design Storm Event	**Total to Ravine** (m^3/s)	**Total to Northern Woodlot** (m^3/s)	**Total to Central Woodlot** (m^3/s)	**Total to Pilkington Drain** (m^3/s)
5-year	1.952	0.048	0.059	0.009
10-year	2.375	0.071	0.085	0.013
25-year	2.924	0.106	0.125	0.019
50-year	3.333	0.140	0.162	0.024
100-year	3.704	0.171	0.197	0.029
250-year	4.177	0.222	0.255	0.036

Sufficient volume has been provided within the SWMF to safely convey the 250-year storm event. The maximum anticipated ponding elevation within the SWMF will be 243.66 m (0.86 m above the Permanent Pool Level). An overflow weir is provided with a sill elevation of 243.40 m, and the top of the pond elevation is 244.20 m. The SWMF ponding elevations are illustrated in **Table 6**.

Table 6 - Summary of SWMF Interim Development Condition Ponding Elevation-Storage-Outflow

Design Storm Event	**Pond Inflow** (m^3/s)	**Pond Outflow** (m^3/s)	**Maximum Storage Volume Used** (m^3)	**Maximum Ponding Elevation** (m)
25mm	0.705	0.018	823	243.07
5-year	1.468	0.026	1868	243.37
10-year	1.790	0.068	2147	243.45
25-year	2.206	0.150	2412	243.51
50-year	2.477	0.257	2597	243.56
100-year	2.721	0.360	2762	243.60
250-year	3.033	0.562	2989	243.66

5.4.2 Ultimate Development Water Quantity Function

The quantity control strategy for future development to the west will remain the same as described in Section 5.4.1. but the minor and major system catchment area tributary to the SWMF has increased. The minor flows from catchment areas 302, 303 and Rougham Road will now be directed towards the SWMF. Major flows from Catchment 304 will flow towards the central woodlot. The SWMHYMO model output shows that over 6000 cubic meters of storage is provided in the woodlot, fitted with an overflow ditch inlet catchment set near Lots 73 and 74. This structure will provide overflow relief to the West Tributary in the event of heavy rainfall.

Flows from Catchment 305 will flow towards the new sewers on Parkhouse Drive, located in Catchment 210. As per the design sheets, the sewers have been designed to receive up to the five-year design storm event from the catchment area. Seven hundred thirty (730) cubic meters of storage will be provided in Blocks 99 to provide peak flow attenuation up to the allowable release rate. Detailed stage-storage-discharge relationship for the SWMF is provided in **Appendix D**.

A summary of the post-development peaks flows to the East Tributary, West Tributary, northern wood lot, central wood lot and Pilkington Drain from the subject lands are provided in **Table 7**.

Table 7 - Ultimate Development Condition Peak Discharges

Design Storm Event	**Total to Ravine** (m^3/s)	**Total to Northern Woodlot** (m^3/s)	**Total to Central Woodlot** (m^3/s)	**Total to Pilkington Drain** (m^3/s)
5-year	2.013	0.031	0.082	0.000
10-year	2.442	0.047	0.270	0.000
25-year	2.995	0.079	0.506	0.000
50-year	3.402	0.093	0.674	0.000
100-year	3.778	0.115	0.826	0.000
250-year	4.540	0.151	1.019	0.000

Sufficient volume has been provided within SWMF to convey the 250-year storm event safely. The maximum anticipated ponding elevation within the SWMF will be 243.87 m (1.07 m above the permanent pool level). An overflow weir is provided with a sill elevation of 243.40 m, and the top of the pond elevation is 244.20 m. Proposed SWMF ponding elevations are illustrated in **Table 8.**

Table 8 - Summary of SWMF Ultimate Development Condition Ponding Elevation-Storage-Outflow

Design Storm Event	Pond Inflow (m^3/s)	Pond Outflow (m^3/s)	Maximum Storage Volume Used (m^3)	Maximum Ponding Elevation (m)
25mm	1.251	0.023	1508	243.27
5-year	2.560	0.239	2566	243.55
10-year	2.950	0.407	2816	243.62
25-year	3.452	0.684	3125	243.70
50-year	3.785	0.977	3361	243.75
100-year	4.083	1.227	3553	243.80
250-year	4.468	1.656	3821	243.87

5.5 Overland Flow Routes

There are various locations within the study area through which major system flows are proposed to be conveyed overland. The catchment areas for each overland flow route (OLFR) were determined and modelled to obtain the 250-year flow. Each OLFR is described below, and each parameter is summarized in **Table 9**. Supporting calculations are found in **Appendix D**.

Edgewood Lane OLFR – This OLFR is situated within the Hydro One corridor between lots 37 and 38 on Edgewood Lane. This OLFR will convey flows from Edgewood Lane and the rear yard areas of the lots fronting Church Street. The maximum flow through this OLFR is conservatively estimated to be 0.6 m^3/s.

Trillium Way OLFR – This OLFR is situated within the Hydro One corridor between lots 84 and 85 on Trillium Way. This OLFR will convey flows from Edgewood Lane, Trillium Way and Phase 2 of the subdivision to the SWMF. The flow through this OLRF is conservatively estimated to be 1.6 m^3/s.

Street 'A' East OLFR – This OLFR is situated within the Hydro One corridor between lots 94 and 95 on Perring Drive. This OLFR will convey major system flows to the SWMF from Perring Drive.

Street 'A' West OLFR – This OLFR is in Parcel 1, directly west of lot 90. This OLFR will convey major system flows to the SWMF from the future development of Street A and a portion of Rougham Road.

Rougham Road OLFR – The roadside ditch along the east boulevard of Rougham Road will convey major system flows from Catchment 303 to the Central Woodlot.

Table 9 - Summary of OLFR Parameters

Parameter	Edgewood Lane	Trillium Way	Street 'A'		Rougham Road	Units
			East	West		
Channel Shape	Trapezoidal	Trapezoidal	Trapezoidal	Trapezoidal	Triangular	N/A
Lining Material	Grass	Turf stone	Grass	Grass	Grass	N/A
Side Slopes	4:1	4:1	4:1	4:1	4:1	H:V
Bottom Width	7.0	7.0	3.0	3.0	N/A	m
Channel Slope	1.8	5.0	3.0	2.0	2.0	%
Flow Depth	0.08	0.09	0.08	0.19	0.35	m
Flow	0.600	1.601	0.321	1.469	0.650	m^3/s
Total Top Width	7.66	7.74	3.64	5.49	2.13	m
Velocity	0.99	2.42	1.21	1.66	1.72	m/s
Permissible Velocity	2.1	3.5	2.1	2.1	2.1	m/s

5.6 Hydraulic Grade Line Analysis

The hydraulic grade line (HGL) was calculated for the storm sewer system to confirm system performance. This analysis demonstrates that the proposed sewer can accommodate design flows without causing surcharge conditions for both the interim and ultimate development scenarios.

The HGL in the SWMF during the 5-year storm event will be the permanent pool elevation plus the computed friction loss or the height of the HGL base plus the upstream conduit invert. The base elevation used for the is 242.80 m.

Moving upstream, the HGL is calculated by adding the friction losses for each pipe run. The friction loss is calculated using Manning's Formula to calculate the friction slope, and then the friction slope is applied over the length of the pipe.

The resulting formula is displayed below.

$$h_{friction} = \frac{Q^2 n^2}{A^2 R^{4/3}} \times L$$

Where:

$h_{friction}$ = segment friction loss
Q = 5-year SWMF inflow, m^3/s
n = Manning's n (dimensionless)
A = Flow Area (m^2)
R = Hydraulic Radius (m)
L = Pipe Length (m)

As the HGL moves upstream through the system, the friction loss in each pipe is added to the HGL at the upstream end of the respective pipe such that the HGL is the sum of all downstream friction losses and the outlet HGL. All relevant drawings show that the HGL is always below the proposed ground surface.

5.7 Stormwater Management Facility Design Summary

Details for the SWMF are provided on LDS Drawing Sheet No. 22 and 23 and are appended to this report. The following SWMF design characteristics list, read in conjunction with the above drawing, outlines all significant design aspects and rationales.

- As described in Section 5, the SWMF has been designed as a wet pond with sufficient permanent and active storage volumes to achieve an Enhanced (formerly Level 1) degree of protection during both development conditions.
- The outlet control structures for the SWMF will be in the form of a perforated CSP riser with a bottom draw inlet, properly sloped pipe fitted with a reducer for orifice control, and an overflow weir. In the interim and ultimate development scenario, the outlet control orifice within the CSP riser has been designed to provide a minimum of 27 and 36 hours of drawdown time for the 25mm design storm event.
- A rip-rap-protected channel has been incorporated into the design of the SWMF to ensure all incoming overland flows get directed into the forebay of the SWMF.
- The design of the SWMF has internal side slopes of 3:1 and 5:1 throughout above the permanent water level where pedestrian access could be achieved. Side slopes of 5:1 and 3:1 below the permanent pool to the bottom of the pond. Also, a minimum 3 m wide buffer has been provided adjacent to the top of the SWMF as per LDS Drawing Sheet No. 22.
- The 250-year ponding elevation is 243.66m and 243.87m for the interim and ultimate development conditions, respectively. The top of the SWMF is 244.20m.
- Operation and maintenance of the SWMF will be the responsibility of the Municipality of Strathroy-Caradoc once the facility has been "assumed" by the municipality. Maintenance responsibilities include regular inspection of the basin. It should be noted that the estimated sediment clean-out frequencies outlined in the forebay calculation sheet might be reduced during the interval before the complete stabilization of the upstream contributing drainage areas.

5.8 Water Balance

Water balance mitigation measures have been incorporated into the new developments to maintain the existing local water budget to the extent technically, physically, and economically practical. As previously accepted by the Municipality in the Consolidated Report and Construction Monitoring Recommendations (LDS, 2023).

Thus, at-source infiltration measures will be included in the detailed design of the proposed subdivision. Wherever feasible, the following measures will be implemented to promote infiltration in the single-family residential lots and ecological areas:

- Rooftop and rear-yard areas will be directed towards the central wood lot from Edgewood Subdivision;
- Ecological buffers have been incorporated by leaving open space corridors adjacent to the natural environmental blocks for all developments;
- A portion of surface runoff created during major storm events from the future development to the west will be directed toward the central wood lot;
- A relief outlet has been provided for the central wood lot, which allows for excess water to be conveyed to the West Tributary; and,
- Lots will be graded with split drainage to direct runoff to the rear yards and into natural areas where feasible for future development.

Similarly, runoff from any medium-density residential block will be directed to landscape features wherever feasible to promote infiltration. The water balance assessment for each development can be found within the Consolidated Report prepared by LDS Consultants Inc.

6. EROSION & SEDIMENT CONTROL PLAN

This section describes the Erosion and Sediment Control Plan implemented before, during and immediately after construction to reduce the possibility of sediment being conveyed from the proposed construction site.

6.1 Types of Selected Erosion/Sediment Control Methods

The details and locations of the temporary and longer-term erosion and sediment control measures will be identified before final approval. The construction drawings, once complete, will form a part of the sediment and erosion control plan. Erosion and sediment control measures include the following:

- The Contractor will install a silt fence barrier along the boundary of the subject site.
- The Contractor is expected to stabilize all disturbed areas where work will not occur for 30 days or more per OPSS 572.
- When necessary, street sweeping will remove soil deposited on adjacent right-of-way by construction traffic.

The temporary erosion and sediment control measures have been selected based on the site's susceptibility to erosion, the sensitivity of the downstream environment, site slopes, and the total drainage area. The proposed measures should provide adequate erosion and sediment control for the project without additional effort. However, the site will be monitored during construction; other actions will be added if required.

6.2 Installation of Erosion Control Measures

The locations of the proposed erosion and sediment control measures will be determined, and the order in which the proposed measures will be implemented is summarized in **Table 10**.

Table 10 - Erosion and Sediment Control Sequencing

Stage	Erosion and Sediment Control Measures
Pre-Construction	Create a contact list for emergency contingency plan operations.
	Install a silt fence around the work limits, as appropriate.
	Install perimeter robust siltation barrier, as necessary.
	Preparation of a Construction Dewatering Discharge Plan, including discharge location, temporary storage locations and identifying measures to reduce suspended solids or other treatment, if required
Construction	Monitor water quality (turbidity) for construction dewatering discharge water discharged at the surface.
	Regularly inspect erosion and sediment control measures to confirm they are practical and operating as intended.
	Monitor weather reports for significant precipitation events for contingency planning.
	Install filter cloth in on-site catch basins.
	Perform street sweeping as necessary to remove accumulated sediment from the adjacent right-of-way.
	Build up boulevards to ensure no sediment discharges into new catch basins and maintenance holes.
	Complete final paving, landscaping and vegetation plantings.
Post-Construction	Remove robust siltation barrier, subject to inspection and approval by the Contract Administrator.
	Remove the silt fence from the work limits, subject to inspection and approval by the Contract Administrator.
	Remove filter cloth from on-site catch basins.
	Remove the construction fence from the work limits.

The erosion and sediment control measures have been designed according to the site slopes, drainage area, and the risks and consequences of failure. Based on these factors, additional steps will likely be optional.

However, the site will be monitored during construction, and the Contractor may install additional measures (i.e., additional rows of silt fence) at the discretion of the Contract Administrator. Although this is not an exhaustive list, inspections are expected to include: checks on siltation barrier installations to confirm that it is properly installed and secured, including a review for evidence of damage or tears and overtopping or undermining; checking the condition of surface water ponding areas and storm drain inlets, and documenting areas where seeding/sodding/mulching is implemented to re-establish vegetative cover.

The triggers for installing enhanced erosion and sediment control measures would include breaching the erosion and sediment control measures and re-evaluation based on site conditions during construction. As described below, site conditions and the erosion and sediment control measures will be monitored regularly.

6.3 Inspection Requirements

Frequent inspections will be required to monitor the effectiveness of the erosion and sediment control measures during site grading and site servicing work. Therefore, the following minimum inspection intervals are recommended:

- The Contractor and Contract Administrator shall monitor weather reports daily and record temperatures and rainfall. When rainfall is anticipated, the Contractor and the Contract Administrator shall inspect the erosion control works immediately before and immediately after a rainfall event and snowmelt event (timing for inspections before events are based on predicted weather forecasts);
- Daily during extended or significant precipitation (i.e., rainfall amounts that exceed 25 millimetres) or during significant snowmelt periods;
- Daily during any construction activity that would potentially yield significant runoff volumes or otherwise impact the quality of the runoff leaving the site;
- Daily while deficiencies are present which fail to contain, filter or otherwise treat runoff or contribute to sediment loading in surface water;
- Weekly during dry periods while construction activity is occurring at the site. The Contractor and the Contract Administrator shall inspect the erosion control measures the day before the last business day of the week (typically Thursday) to allow any work to be completed on damaged erosion control works before the weekend.; and,
- Monthly during inactive periods (>30 days).

The Contract Administrator will document all inspection activities in weekly erosion and sediment control inspection reports.

The Contractor shall construct and maintain all erosion and sediment control measures. This duty shall include but not be limited to preserving fencing and removing accumulated sediment. Temporary erosion and sediment control measures will not be removed until the areas they serve are restored and stable. The builder will be responsible for removing the erosion and sediment control measures after the sod has been rooted on the site.

6.4 Contingency Plan

The contingency plan aims to help minimize the risk or consequence of a failure with the erosion and sediment control works. Failure could result from insufficient measures, maintenance, or severe weather conditions. The contingency plan includes two areas of consideration:

- Procedures that will be followed where a failure has occurred; and
- Contingency measures will be implemented where there is potential for loss.

The Contractor shall be responsible for following the contingency plan and will prepare the following items:

- The Contractor will maintain a contact list for emergencies.
- Workers shall be on call for emergencies, from design to installation of sediment and erosion control measures. Any associated health and safety issues are the responsibility of the Contractor.

- Sediment and erosion control measures such as a blanket, straw bales and stakes, sandbags, and silt fence shall be available for emergency installation.
- For emergency dewatering, gas-powered pumps, appropriately sized hoses, filtration hose socks, and filter cloth will be available.
- Heavy equipment shall be on standby for emergency works.
- A supplemental contact list for any required equipment or materials shall be prepared and available for emergencies.

6.5 Monitoring and Reporting

Regular inspection and ongoing maintenance of the sediment and erosion control measures are required to ensure the proper and effective operation of the on-site bars.

The following summarizes the minimum frequency of inspection:

- Daily during extended rain or snowmelt periods or when active pumping / discharge of stormwater is undertaken;
- Weekly, during good weather conditions, while no manual pumping is required;
- Before and after every rainfall event;
- After significant snowmelt events; and,
- Monthly during inactive periods (>30 days).

Inspections are expected to include the following scope:

- Inspection of silt fence installations to confirm that the fencing is installed correctly and secured, including review for evidence of damage or tears and overtopping or undermining of silt fence or straw bales along the perimeter of the site;
- Check the condition of berms / embankments around ponding areas;
- A review site for evidence of surface erosion and downstream impacts;
- Check the condition of storm drain inlets;
- Check condition, position and connection of geo-tube to discharge hose;
- Review roadways or points where construction vehicles enter / exit the site for evidence of damage or removal of berms that have been placed to divert / convey flows;
- Document areas where seeding / sodding / mulching is implemented to re-establish vegetative cover.

6.6 Severe Weather Anticipated

In cases where the weather forecast indicates that significant rainfall is expected within 24 hours, the Contractor shall immediately complete the following:

- Inspect existing erosion and sediment control measures to confirm that they are secure and in good working order;
- Review site conditions to identify and protect areas of exposed soil that could be susceptible to surface erosion; and,
- Monitor all measures during the rainfall event and take corrective action where a potential for failure is identified.

The Contract Administrator shall document the status of the above-listed steps.

6.7 Responding to Failures

The Contractor will cease all construction-related work and focus on erosion and sediment control to stabilize the site where a failure has occurred or is imminent. The Contractor shall complete the job to the satisfaction of the Contract Administrator and any regulatory agencies having jurisdiction.

Any unexpected discharge of silt, sediment, or other harmful substance shall be reported to the Municipality of Strathroy-Caradoc within 2 hours. The Contractor is responsible for advising the contract administrator and promptly

notifying the incident to the Spills Action Centre. Depending on the type of incident, water sampling and quality testing may be warranted to document the extent of the impact. Scoping for the required testing will depend on the incident report.

The Owner's Engineer will develop a restoration plan if significant long-term damage to aquatic habitat or property is suspected. Consultation with an ecologist or biologist may be required to confirm that the remedial measures are appropriate. Development of the initial restoration plan will begin within 24 hours of discovering sediment discharge. It will be implemented immediately following consultation and approval from the MECP, Lower Thames Valley Conservation Authority (LTVCA), and the Municipality of Strathroy-Caradoc. The plan will address the following:

- Removal and disposal of sediment deposited outside of the work limits; and
- Restoration of any areas disturbed through deposition or removal.

6.8 Reporting Schedule

The Contract Administrator shall prepare weekly erosion and sediment control monitoring reports / summaries for site grading and servicing and submit them to the Municipality of Strathroy-Caradoc by April 1, July 1, and November 1 of each year until all works and services are included in the plan. Also, before removing the erosion and sediment controls, the Municipality of Strathroy-Caradoc and the contract administrator should conduct a joint inspection of the development area.

The monitoring reports should document the status of the ESC Plan, any repairs, rainfall or pumping that has occurred since the last word, and any risks of failure that may be present.

Additionally, any failure of erosion and sediment control measures shall be reported as described in the contingency plan.

6.9 Construction Dewatering Requirements

Based on the borehole information and findings from the Geotechnical Investigation prepared by LDS Consultants, shallow groundwater conditions are localized and intermittent throughout the site. As such, where minor groundwater infiltration occurs within open excavations during construction, conventional sump pumping techniques are expected to be suitable for groundwater control. The discharge from dewatering activities must be discharged to an adequately constructed sediment trap. The contractor will be responsible for regular maintenance (including sediment removal). Under no circumstances will dewatering effluent be discharged directly to the Medway Valley environmentally significant area. The Contractor and the Contract Administrator will monitor the water quality leaving the sediment traps.

Additional dewatering sediment traps will be constructed within the proposed work limits if the dewatering volume is significantly greater during construction. The exact location of the dewatering sediment traps will depend on the scope of work completed and the location of the excavation to be dewatered. Thus, the sites of any additional dewatering areas will be identified by the Owner’s Engineer in consultation with the Contractor and the Contract Administrator.

7. OPERATION AND MAINTENANCE

During the construction of the SWMF, it is recommended that monitoring and inspection of the erosion and sediment controls be conducted to ensure the satisfactory performance of these measures.

Reporting of the inspection and monitoring results should be distributed to the Municipality of Strathroy-Caradoc. Suppose it is found that the erosion and sediment control measures need to be fixed. Based on field decisions, they shall be augmented to the satisfaction of the Municipality of Strathroy-Caradoc.

Furthermore, it is recommended that the owner initiate a post-construction monitoring program to ensure the long-term effectiveness of the SWMF. The post-construction monitoring program should include the following:

- Periodic inspection of the SWMF and other erosion control works.
- Inspect the SWMF and its outlet after significant rainfall events (generally more than 10 mm of rainfall).
- Removal of debris that may accumulate and hinder the functioning of the SWMF.
- Implement remedial measures, including erosion stabilization, repair of damaged vegetation and sediment removal, as required.

The frequency of the post-construction monitoring will be at the discretion of the Municipality of Strathroy-Caradoc. It is recommended that a minimum of four (seasonal) inspections be made annually.

8. CONCLUSIONS

Based on the preceding analyses, it is concluded that:

1. The Edgewood subdivision and future development to the west drainage outlet is the proposed wet SWMF that outlets to the East Tributary on the subject site. The drainage outlet for the southwestern part of the future development is the West Tributary—both tributaries outlet to Mill Creek on the neighbouring property.
2. The SWM strategy outlined herein is in keeping with the intent of the MOE *Stormwater Management Planning and Design Manual (2003).*
3. The proposed SWMF will provide adequate quantity and quality control for stormwater runoff from the site.
4. The existing portion of the East Tributary on-site will need to be improved to accommodate runoff from the external drainage area, subject to the control measures described in the Fluvial Geomorphological Assessment Report (ERI, 2019), without significant detrimental impacts.
5. Adequate quality control protection (Enhanced) will be provided for stormwater runoff from the site.
6. This Functional Stormwater Management Report should be reviewed and revised as required once the detailed design of future development to the west has been completed, including supporting stormwater management calculations and modelling, as necessary to verify the stormwater management pond has adequate capacity to accept future development flows, as per the municipality request. This Functional Stormwater Management Report does not approve or imply approval of the stormwater management strategy for future development to the west. The future development will require review and approvals from the Municipality and other applicable agencies.

The findings of this report and the above conclusions lead to the following recommendations:

1. An extended detention wet SWM pond is constructed to provide quality stormwater control for both subdivisions as described in Sections 5.3.1, 5.3.2 and 5.3.3 of this report. An OGS Device is built upstream of Catchment 305, 209 and 210 to provide quality stormwater control for the southwestern portion of the neighbouring subdivision, as described in Section 5.3.4 of this report.
2. Major overland flows should be directed to the outlet as described in Section 5.5 of this report.
3. That erosion and sediment controls be implemented before construction as described in Section 6 of this report.
4. The SWMF maintenance recommendations described in Section 7 of this report should be implemented.

All of which is respectfully submitted,

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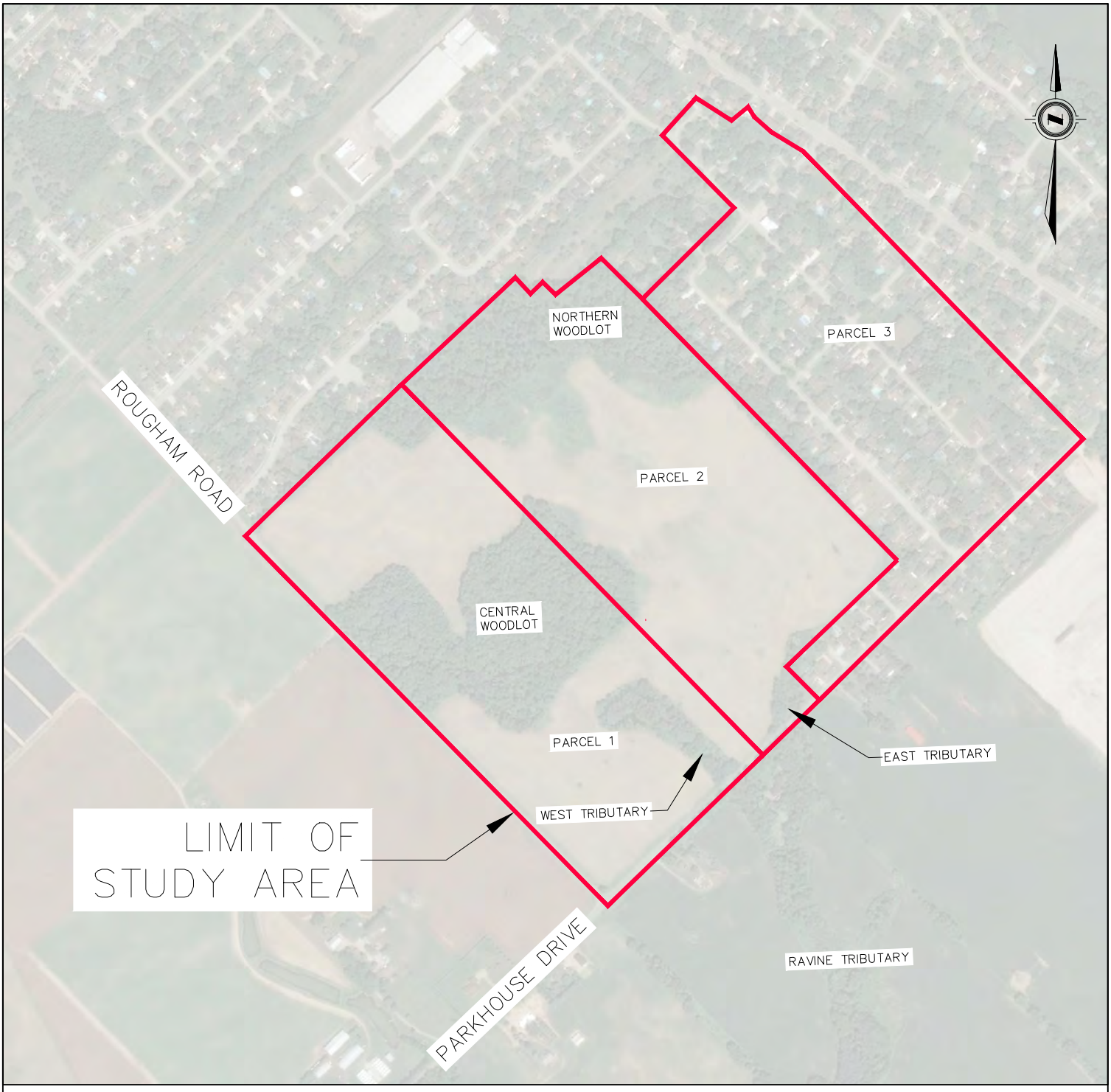
APPENDIX A

FIGURES



EDGEWOOD SUBDIVISION

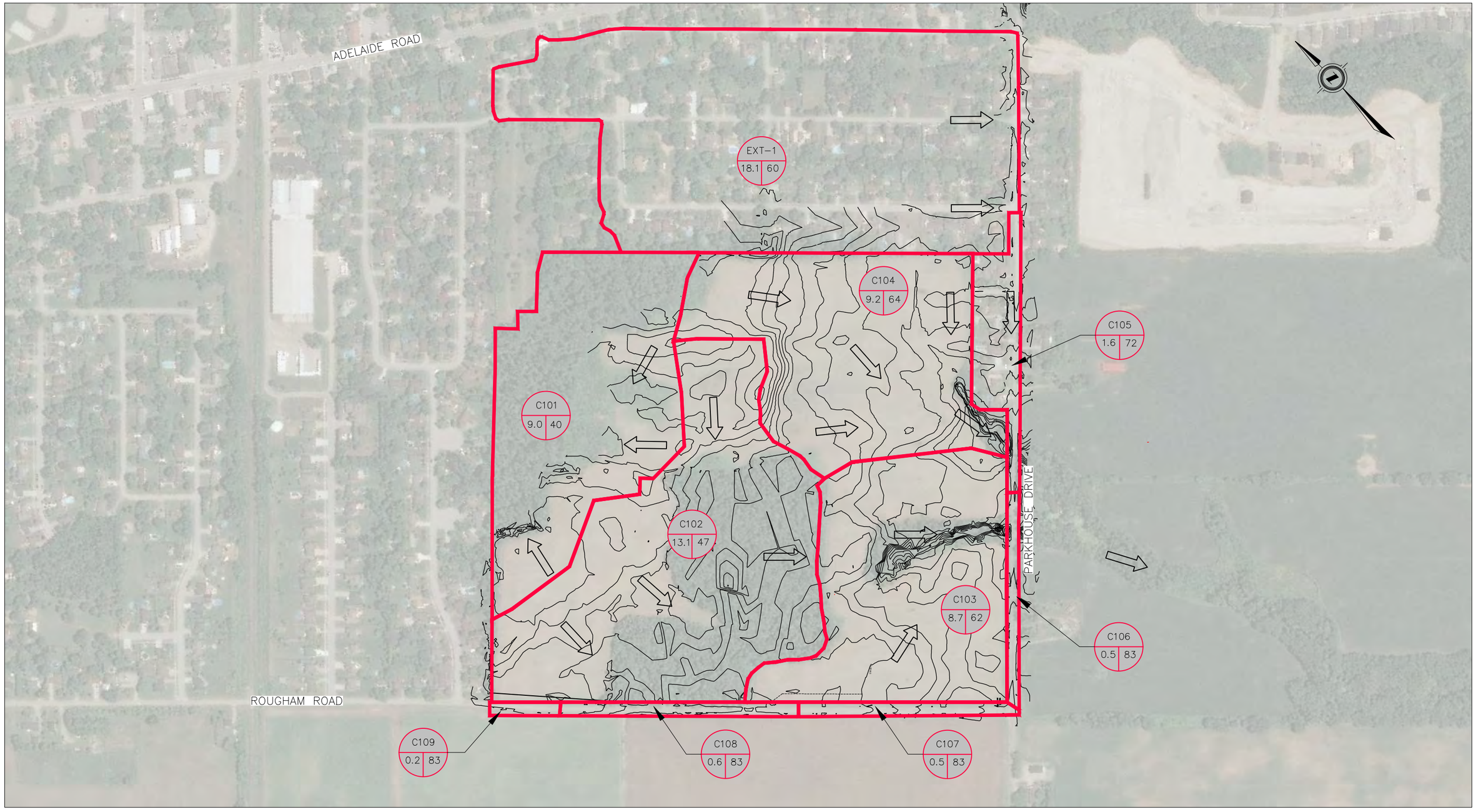
WESTDELL CORPORATION

LOCATION PLAN

PROJECT: LD-00135

SCALE: N.T.S.

FIGURE 1



LEGEND:

EXISTING CATCHMENT AREA

EXISTING FLOW ROUTE

STORM DRAINAGE AREA DATA:

101 — CATCHMENT ID

AREA (ha) 1.3 | 82 — SCS CURVE NUMBER

LDS

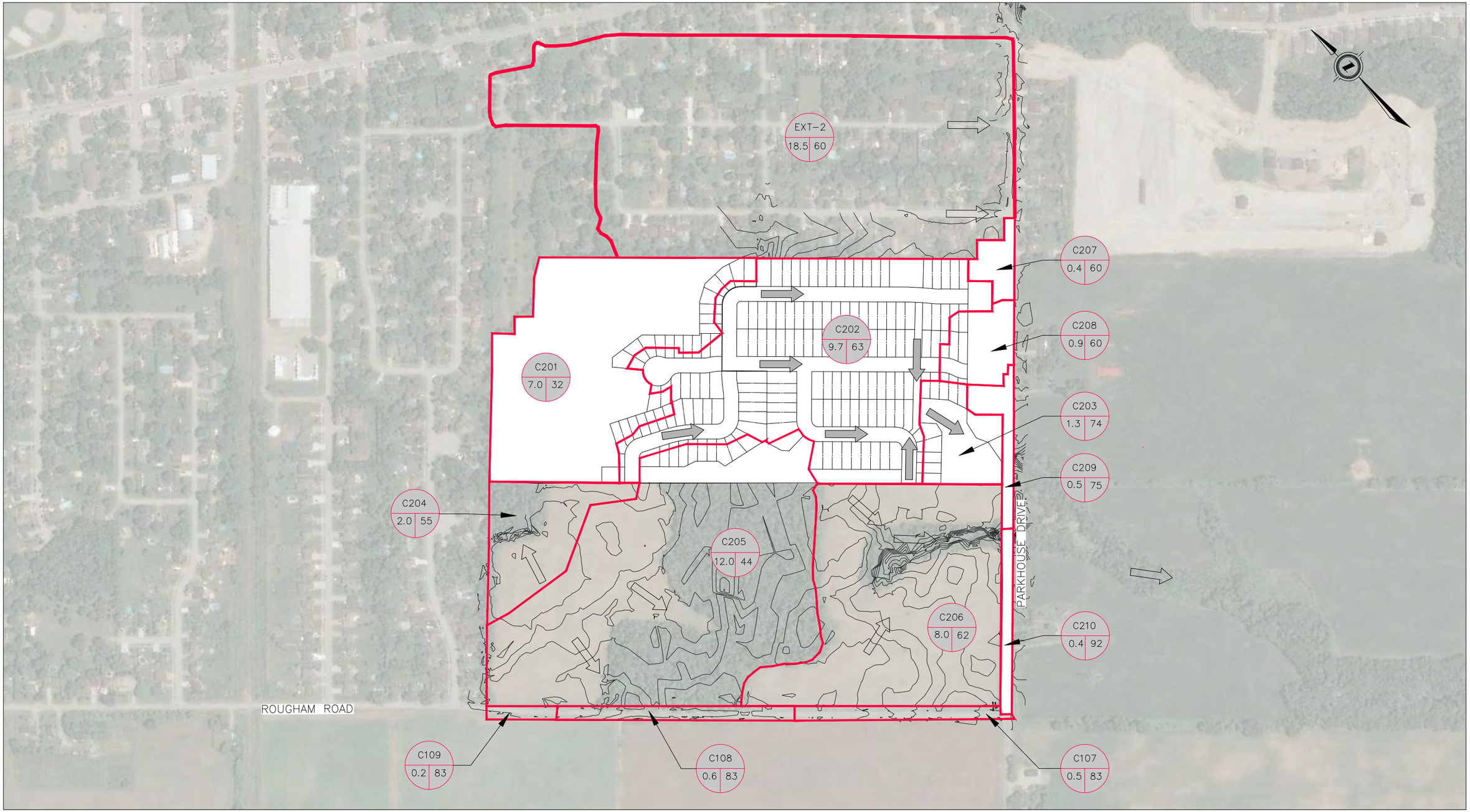
EDGEWOOD SUBDIVISION

WESTDELL CORPORATION

EXISTING CONDITIONS DRAINAGE AREA PLAN

PROJECT: LD-00135 SCALE: 1:5000 FIGURE 2

Z:\1614-00135 - EDGEWOOD SUBDIVISION (WESTDELL CORP.) - MT. BRYDGES\DETAIL DESIGN\REPORTS\SWM\2024-07 - REVISING OF THE EDGEWOOD SUBDIVISION\LD-00135 SWM DRAWINGS.DWG
2024-07-15 1:47:08 PM by: LUKEJESSON



LEGEND:

PROPOSED CATCHMENT AREA

PROPOSED OVERLAND FLOW ROUTE

EXISTING OVERLAND FLOW ROUTE

STORM DRAINAGE AREA DATA:

101 — CATCHMENT ID

AREA (ha) 1.3 | 82 — SCS CURVE NUMBER

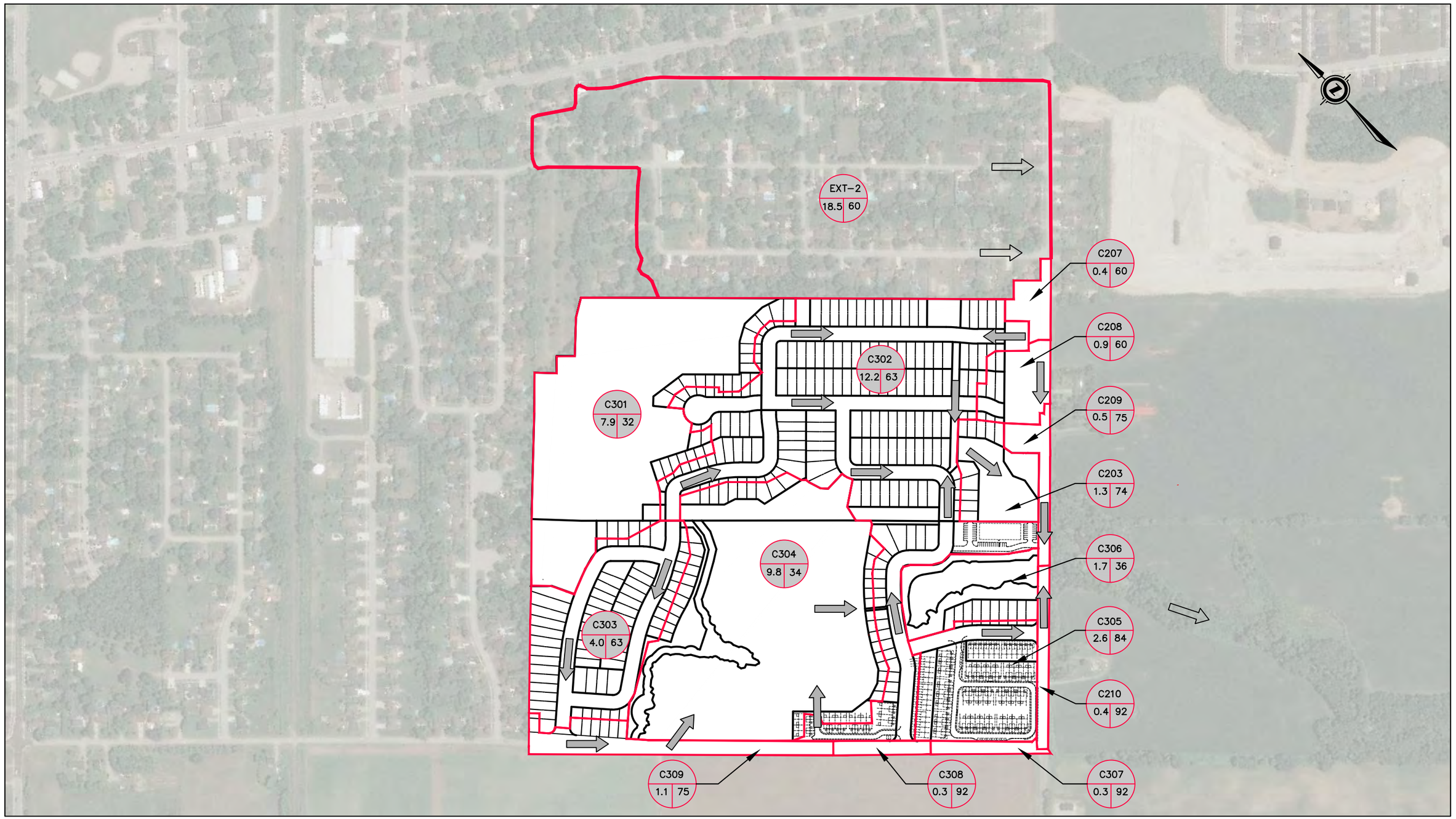
EDGEWOOD SUBDIVISION

WESTDELL CORPORATION

INTERIM DEVELOPMENT CONDITIONS DRAINAGE AREA PLAN

PROJECT: LD-00135 SCALE: 1:5000 FIGURE 3

Z:\1614-00135 - EDGEWOOD SUBDIVISION (WESTDELL CORP.) - MT. BRYDGES\CIVIL DESIGN\REPORTS\SWM\2024-07 - REZONING OF THE EDGEWOOD SUBDIVISION\LD-00135 SWM DRAWINGS.DWG
2024-07-15 11:29:27 AM by: LUKEJESSUP



LDS

LEGEND:

PROPOSED CATCHMENT AREA

PROPOSED OVERLAND FLOW ROUTE

EXISTING OVERLAND FLOW ROUTE

STORM DRAINAGE AREA DATA:

C207 — CATCHMENT ID

AREA (ha) 1.3 | 82 — CURVE NUMBER

EDGEWOOD SUBDIVISION

WESTDELL CORPORATION

ULTIMATE CONDITIONS DRAINAGE AREA PLAN

PROJECT: LD-00135 SCALE: 1:5000 FIGURE 4

Z:\101-00135 - EDGEWOOD SUBDIVISION (WESTDELL CORP.) - MT. BRIDGES\DESIGN\REPORTS\SWM\2024-07 - REPORTING OF THE EDGEWOOD SUBDIVISION\LD-00135 SWM DRAWINGS.DWG
2024-07-15 1:00:46 PM by LUKE.JESSON

APPENDIX B

SWMHYMO HYDROLOGIC MODEL

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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   # 4058874
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: Land Development Solutions                  +++++++++
00025>  +++++++++                London                 SERIAL#:4058874     +++++++++
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>
00036>  **********************   D E T A I L E D   O U T P U T   **********************
00037>  ********************************************************************************
00038>  *         DATE: 2024-07-15     TIME: 15:58:49     RUN COUNTER: 001145         *
00039>  ********************************************************************************
00040>  * Input   filename: C:\SWMHMY~1\LD-00135\20240708.dat                           *
00041>  * Output  filename: C:\SWMHMY~1\LD-00135\20240708.out                          *
00042>  * Summary filename: C:\SWMHMY~1\LD-00135\20240708.sum                          *
00043>  * User comments:                                                              *
00044>  * 1:_____________________________________________________________________________*
00045>  * 2:_____________________________________________________________________________*
00046>  * 3:_____________________________________________________________________________*
00047>  ********************************************************************************
00048>
00049> --------------------------------------------------------------------------------
00050> 001:0001--------------------------------------------------------------------------
00051> *#*******************************************************************************
00052> *#  Project Name: [EDGEWOOD & FOREST VIEW]    Project Number: [LD-00135&00142]
00053> *#  Date        : 08-07-2024
00054> *#  Modeller    : [LJ]
00055> *#  Company     : LDS Consultants Inc.
00056> *#  License #   : 4058874
00057> *#*******************************************************************************
00058> --------------------
00059> | START            |  Project  dir.: C:\SWMHMY~1\LD-00135\
00060> -------------------  Rainfall dir.: C:\SWMHMY~1\LD-00135\
00061>     TZERO =   .00 hrs on        0
00062>     METOUT=   2 (output = METRIC)
00063>     NRUN  = 001
00064>     NSTORM=   0
00065> --------------------------------------------------------------------------------
00066> 001:0002--------------------------------------------------------------------------
00067> *#*******************************************************************************
00068> *#
00069> *#                                      25 mm Event
00070> *#                                      ============
00071> *#
00072> *#*******************************************************************************
00073> --------------------
00074> | CHICAGO STORM    |    IDF curve parameters: A= 538.850
00075> | Ptotal= 23.54 mm |                          B=   6.331
00076> --------------------                          C=    .809
00077>                         used in:   INTENSITY =  A / (t + B)^C
00078>
00079>                         Duration of storm  =  3.00 hrs
00080>                         Storm time step    =  5.00 min
00081>                         Time to peak ratio =   .33
00082>
00083>              TIME    RAIN |   TIME    RAIN |   TIME    RAIN |   TIME    RAIN
00084>               hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr
00085>               .08   1.866 |    .83  10.874 |   1.58   5.451 |   2.33   2.477
00086>               .17   2.039 |    .92  25.649 |   1.67   4.784 |   2.42   2.342
00087>               .25   2.251 |   1.00  75.607 |   1.75   4.268 |   2.50   2.222
00088>               .33   2.519 |   1.08  33.194 |   1.83   3.856 |   2.58   2.115
00089>               .42   2.866 |   1.17  18.435 |   1.92   3.521 |   2.67   2.018
00090>               .50   3.335 |   1.25  12.551 |   2.00   3.242 |   2.75   1.931
00091>               .58   4.007 |   1.33   9.468 |   2.08   3.006 |   2.83   1.851
00092>               .67   5.048 |   1.42   7.594 |   2.17   2.804 |   2.92   1.779
00093>               .75   6.875 |   1.50   6.343 |   2.25   2.629 |   3.00   1.712
00094>
00095> --------------------------------------------------------------------------------
00096> 001:0003--------------------------------------------------------------------------
00097> *#*******************************************************************************
00098> *#                                  =====================
00099> *#                                  EXISTING CONDITIONS
00100> *#                                  =====================
00101> *#*******************************************************************************
00102> ----------------------
00103> | CALIB STANDHYD     |   Area    (ha)=   18.54
00104> | 01:EX-1   DT= 1.00 |   Total Imp(%)=   35.00   Dir. Conn.(%)=   25.00
00105> ----------------------
00106>                                IMPERVIOUS    PERVIOUS (i)
00107>      Surface Area     (ha)=       6.49         12.05
00108>      Dep. Storage     (mm)=       2.00          5.00
00109>      Average Slope     (%)=       1.00          2.00
00110>      Length            (m)=      90.00         50.00
00111>      Mannings n             =       .013          .250
00112>
00113>      Max.eff.Inten.(mm/hr)=      75.61          3.42
00114>                 over (min)          3.00         34.00
00115>      Storage Coeff.  (min)=       2.68 (ii)    33.82 (ii)
00116>      Unit Hyd. Tpeak (min)=       3.00         34.00
00117>      Unit Hyd. peak  (cms)=        .40           .03
00118>                                                          *TOTALS*
00119>      PEAK FLOW       (cms)=        .81           .02          .815 (iii)
00120>      TIME TO PEAK    (hrs)=       1.02          1.72         1.017
00121>      RUNOFF VOLUME    (mm)=      21.54          1.02         6.147
00122>      TOTAL RAINFALL   (mm)=      23.54         23.54        23.544
00123>      RUNOFF COEFFICIENT   =        .92           .04          .261
00124>
00125>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
00126>            CN* =  39.0    Ia = Dep. Storage  (Above)
00127>         (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
00128>              THAN THE STORAGE COEFFICIENT.
00129>        (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00130>
00131> --------------------------------------------------------------------------------
00132> 001:0004--------------------------------------------------------------------------
00133> ----------------------
00134> | CALIB NASHYD       |   Area    (ha)=    9.06   Curve Number    (CN)=40.00
00135> | 02:C101   DT= 1.00 |   Ia      (mm)=   8.000   # of Linear Res.(N)= 3.00
00136> ----------------------   U.H. Tp(hrs)=    .510
00137>
00138>      Unit Hyd Qpeak  (cms)=     .679
00139>
00140>      PEAK FLOW       (cms)=     .009 (i)
00141>      TIME TO PEAK    (hrs)=    1.900
00142>      RUNOFF VOLUME    (mm)=     .609
00143>      TOTAL RAINFALL   (mm)=   23.544
00144>      RUNOFF COEFFICIENT   =     .026
00145>
00146>     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00147>
00148> --------------------------------------------------------------------------------
00149> 001:0005--------------------------------------------------------------------------
00150> ----------------------
00151> | CALIB NASHYD       |   Area    (ha)=   13.09   Curve Number    (CN)=47.00
00152> | 03:C102   DT= 1.00 |   Ia      (mm)=   8.000   # of Linear Res.(N)= 3.00
00153> ----------------------   U.H. Tp(hrs)=    .850
00154>
00155>      Unit Hyd Qpeak  (cms)=     .588
00156>
00157>      PEAK FLOW       (cms)=     .013 (i)
00158>      TIME TO PEAK    (hrs)=    2.433
00159>      RUNOFF VOLUME    (mm)=     .800
00160>      TOTAL RAINFALL   (mm)=   23.544
00161>      RUNOFF COEFFICIENT   =     .034
00162>
00163>     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00164>
00165> --------------------------------------------------------------------------------
00166> 001:0006--------------------------------------------------------------------------
00167> ----------------------
00168> | CALIB STANDHYD     |   Area    (ha)=     .61
00169> | 04:C108   DT= 1.00 |   Total Imp(%)=   75.00   Dir. Conn.(%)=    1.00
00170> ----------------------
00171>                                IMPERVIOUS    PERVIOUS (i)
00172>      Surface Area     (ha)=        .46           .15
00173>      Dep. Storage     (mm)=       2.00          5.00
00174>      Average Slope     (%)=       1.00          2.00
00175>      Length            (m)=      90.00         40.00
00176>      Mannings n             =       .013          .250
00177>
00178>      Max.eff.Inten.(mm/hr)=      75.61         28.59
00179>                 over (min)          3.00         14.00
00180>      Storage Coeff.  (min)=       2.68 (ii)    14.33 (ii)
00181>      Unit Hyd. Tpeak (min)=       3.00         14.00
00182>      Unit Hyd. peak  (cms)=        .40           .08
00183>                                                          *TOTALS*
00184>      PEAK FLOW       (cms)=        .00           .01          .007 (iii)
00185>      TIME TO PEAK    (hrs)=       1.02          1.27         1.267
00186>      RUNOFF VOLUME    (mm)=      21.54          4.05         4.224
00187>      TOTAL RAINFALL   (mm)=      23.54         23.54        23.544
00188>      RUNOFF COEFFICIENT   =        .92           .17          .179
00189>
00190>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
00191>            CN* =  39.0    Ia = Dep. Storage  (Above)
00192>         (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
00193>              THAN THE STORAGE COEFFICIENT.
00194>        (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00195>
00196> --------------------------------------------------------------------------------
00197> 001:0007--------------------------------------------------------------------------
00198> ------------------------
00199> | ADD HYD (CENTER-W  ) | ID: NHYD          AREA     QPEAK   TPEAK   R.V.    DWF
00200> ------------------------                    (ha)     (cms)   (hrs)   (mm)    (cms)
00201>                       ID1 03:C102          13.09     .013    2.43    .80     .000
00202>                      +ID2 04:C108            .61     .007    1.27   4.22     .000
00203>                       ========================================================
00204>                       SUM 05:CENTER-W      13.70     .014    2.30    .95     .000
00205>
00206>    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
00207>
00208> --------------------------------------------------------------------------------
00209> 001:0008--------------------------------------------------------------------------
00210> ----------------------
00211> | CALIB NASHYD       |   Area    (ha)=    9.17   Curve Number    (CN)=64.00
00212> | 03:C104   DT= 1.00 |   Ia      (mm)=   8.000   # of Linear Res.(N)= 3.00
00213> ----------------------   U.H. Tp(hrs)=    .590
00214>
00215>      Unit Hyd Qpeak  (cms)=     .594
00216>
00217>      PEAK FLOW       (cms)=     .021 (i)
00218>      TIME TO PEAK    (hrs)=    2.017
00219>      RUNOFF VOLUME    (mm)=    1.525
00220>      TOTAL RAINFALL   (mm)=   23.544
00221>      RUNOFF COEFFICIENT   =     .065
00222>
00223>     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00224>
00225> --------------------------------------------------------------------------------
00226> 001:0009--------------------------------------------------------------------------
00227> ----------------------
00228> | CALIB STANDHYD     |   Area    (ha)=    1.63
00229> | 04:C105   DT= 1.00 |   Total Imp(%)=   56.00   Dir. Conn.(%)=   50.00
00230> ----------------------
00231>                                IMPERVIOUS    PERVIOUS (i)
00232>      Surface Area     (ha)=        .91           .72
00233>      Dep. Storage     (mm)=       2.00          5.00
00234>      Average Slope     (%)=       1.00          2.00
00235>      Length            (m)=      90.00         40.00
00236>      Mannings n             =       .013          .250
00237>
00238>      Max.eff.Inten.(mm/hr)=      75.61          3.28
00239>                 over (min)          3.00         30.00
00240>      Storage Coeff.  (min)=       2.68 (ii)    30.36 (ii)
00241>      Unit Hyd. Tpeak (min)=       3.00         30.00
00242>      Unit Hyd. peak  (cms)=        .40           .04
00243>                                                          *TOTALS*
00244>      PEAK FLOW       (cms)=        .14           .00          .143 (iii)
00245>      TIME TO PEAK    (hrs)=       1.02          1.65         1.017
00246>      RUNOFF VOLUME    (mm)=      21.54           .99        11.269
00247>      TOTAL RAINFALL   (mm)=      23.54         23.54        23.544
00248>      RUNOFF COEFFICIENT   =        .92           .04          .479
00249>
00250>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
00251>            CN* =  39.0    Ia = Dep. Storage  (Above)
00252>         (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
00253>              THAN THE STORAGE COEFFICIENT.
00254>        (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00255>
00256> --------------------------------------------------------------------------------
00257> 001:0010--------------------------------------------------------------------------
00258> ------------------------
00259> | ADD HYD (EAST-T    ) | ID: NHYD          AREA     QPEAK   TPEAK   R.V.    DWF
00260> ------------------------                    (ha)     (cms)   (hrs)   (mm)    (cms)
00261>                       ID1 01:EX-1          18.54     .815    1.02   6.15     .000
00262>                      +ID2 03:C104           9.17     .021    2.02   1.53     .000
00263>                      +ID3 04:C105           1.63     .143    1.02  11.27     .000
00264>                       ========================================================
00265>                       SUM 06:EAST-T        29.34     .959    1.02   4.99     .000
00266>
00267>    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
00268>
00269> --------------------------------------------------------------------------------
00270> 001:0011--------------------------------------------------------------------------
```

```
00271> ----------------------
00272> | CALIB NASHYD       |   Area    (ha)=    8.73   Curve Number    (CN)=62.00
00273> | 01:C103   DT= 1.00 |   Ia      (mm)=   8.000   # of Linear Res.(N)= 3.00
00274> ----------------------  U.H. Tp(hrs)=    .540
00275>
00276>      Unit Hyd Qpeak  (cms)=     .617
00277>
00278>      PEAK FLOW       (cms)=     .019 (i)
00279>      TIME TO PEAK    (hrs)=    1.933
00280>      RUNOFF VOLUME    (mm)=    1.411
00281>      TOTAL RAINFALL   (mm)=   23.544
00282>      RUNOFF COEFFICIENT   =     .060
00283>
00284>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00285>
00286> ------------------------------------------------------------------------------
00287> 001:0012-------------------------------------------------------------------------
00288> ----------------------
00289> | CALIB STANDHYD     |   Area    (ha)=     .47
00290> | 03:C106   DT= 1.00 |   Total Imp(%)=   75.00   Dir. Conn.(%)=    1.00
00291> ----------------------
00292>                              IMPERVIOUS    PERVIOUS (i)
00293>      Surface Area     (ha)=        .35          .12
00294>      Dep. Storage     (mm)=       2.00         5.00
00295>      Average Slope     (%)=       1.00         2.00
00296>      Length            (m)=      90.00        40.00
00297>      Mannings n            =       .013         .250
00298>
00299>      Max.eff.Inten.(mm/hr)=      75.61        28.59
00300>                    over (min)        3.00        14.00
00301>      Storage Coeff.  (min)=       2.68 (ii)   14.33 (ii)
00302>      Unit Hyd. Tpeak (min)=       3.00        14.00
00303>      Unit Hyd. peak  (cms)=        .40          .08
00304>                                                      *TOTALS*
00305>      PEAK FLOW       (cms)=        .00          .01          .006 (iii)
00306>      TIME TO PEAK    (hrs)=       1.02         1.27         1.267
00307>      RUNOFF VOLUME    (mm)=      21.54         4.05         4.224
00308>      TOTAL RAINFALL   (mm)=      23.54        23.54        23.544
00309>      RUNOFF COEFFICIENT   =        .92          .17          .179
00310>
00311>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
00312>            CN* =  39.0    Ia = Dep. Storage  (Above)
00313>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
00314>            THAN THE STORAGE COEFFICIENT.
00315>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00316>
00317> ------------------------------------------------------------------------------
00318> 001:0013-------------------------------------------------------------------------
00319> ----------------------
00320> | CALIB STANDHYD     |   Area    (ha)=     .54
00321> | 04:C107   DT= 1.00 |   Total Imp(%)=   75.00   Dir. Conn.(%)=    1.00
00322> ----------------------
00323>                              IMPERVIOUS    PERVIOUS (i)
00324>      Surface Area     (ha)=        .41          .14
00325>      Dep. Storage     (mm)=       2.00         5.00
00326>      Average Slope     (%)=       1.00         2.00
00327>      Length            (m)=      90.00        40.00
00328>      Mannings n            =       .013         .250
00329>
00330>      Max.eff.Inten.(mm/hr)=      75.61        28.59
00331>                    over (min)        3.00        14.00
00332>      Storage Coeff.  (min)=       2.68 (ii)   14.33 (ii)
00333>      Unit Hyd. Tpeak (min)=       3.00        14.00
00334>      Unit Hyd. peak  (cms)=        .40          .08
00335>                                                      *TOTALS*
00336>      PEAK FLOW       (cms)=        .00          .01          .007 (iii)
00337>      TIME TO PEAK    (hrs)=       1.02         1.27         1.267
00338>      RUNOFF VOLUME    (mm)=      21.54         4.05         4.224
00339>      TOTAL RAINFALL   (mm)=      23.54        23.54        23.544
00340>      RUNOFF COEFFICIENT   =        .92          .17          .179
00341>
00342>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
00343>            CN* =  39.0    Ia = Dep. Storage  (Above)
00344>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
00345>            THAN THE STORAGE COEFFICIENT.
00346>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00347>
00348> ------------------------------------------------------------------------------
00349> 001:0014-------------------------------------------------------------------------
00350> ----------------------
00351> | ADD HYD (WEST-T    ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
00352> ----------------------   (ha)     (cms)   (hrs)   (mm)    (cms)
00353>                      ID1 01:C103           8.73     .019   1.93   1.41    .000
00354>                    +ID2 03:C106            .47     .006   1.27   4.22    .000
00355>                    +ID3 04:C107            .54     .007   1.27   4.22    .000
00356>                      ========================================================
00357>                      SUM 07:WEST-T         9.74     .024   1.77   1.70    .000
00358>
00359>    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
00360>
00361> ------------------------------------------------------------------------------
00362> 001:0015-------------------------------------------------------------------------
00363> ----------------------
00364> | CALIB STANDHYD     |   Area    (ha)=     .17
00365> | 01:C109   DT= 1.00 |   Total Imp(%)=   75.00   Dir. Conn.(%)=    1.00
00366> ----------------------
00367>                              IMPERVIOUS    PERVIOUS (i)
00368>      Surface Area     (ha)=        .13          .04
00369>      Dep. Storage     (mm)=       2.00         5.00
00370>      Average Slope     (%)=       1.00         2.00
00371>      Length            (m)=      90.00        40.00
00372>      Mannings n            =       .013         .250
00373>
00374>      Max.eff.Inten.(mm/hr)=      75.61        28.59
00375>                    over (min)        3.00        14.00
00376>      Storage Coeff.  (min)=       2.68 (ii)   14.33 (ii)
00377>      Unit Hyd. Tpeak (min)=       3.00        14.00
00378>      Unit Hyd. peak  (cms)=        .40          .08
00379>                                                      *TOTALS*
00380>      PEAK FLOW       (cms)=        .00          .00          .002 (iii)
00381>      TIME TO PEAK    (hrs)=       1.02         1.27         1.267
00382>      RUNOFF VOLUME    (mm)=      21.54         4.05         4.224
00383>      TOTAL RAINFALL   (mm)=      23.54        23.54        23.544
00384>      RUNOFF COEFFICIENT   =        .92          .17          .179
00385>
00386>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
00387>            CN* =  39.0    Ia = Dep. Storage  (Above)
00388>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
00389>            THAN THE STORAGE COEFFICIENT.
00390>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00391>
00392> ------------------------------------------------------------------------------
00393> 001:0016-------------------------------------------------------------------------
00394> *#*****************************************************************************
00395> *#                        ============================================
00396> *#                         PROSPOSED INTERIM DEVELOPMENT CONDITIONS
00397> *#                        ============================================
00398> *#*****************************************************************************
00399> ----------------------
00400> | CALIB STANDHYD     |   Area    (ha)=    9.66
00401> | 01:C202   DT= 1.00 |   Total Imp(%)=   40.00   Dir. Conn.(%)=   30.00
00402> ----------------------
00403>                              IMPERVIOUS    PERVIOUS (i)
00404>      Surface Area     (ha)=       3.86         5.80
00405>      Dep. Storage     (mm)=       2.00         5.00
00406>      Average Slope     (%)=       1.00         2.00
00407>      Length            (m)=      90.00        25.00
00408>      Mannings n            =       .013         .250
00409>
00410>      Max.eff.Inten.(mm/hr)=      75.61         1.28
00411>                    over (min)        3.00        33.00
00412>      Storage Coeff.  (min)=       2.68 (ii)   33.10 (ii)
00413>      Unit Hyd. Tpeak (min)=       3.00        33.00
00414>      Unit Hyd. peak  (cms)=        .40          .03
00415>                                                      *TOTALS*
00416>      PEAK FLOW       (cms)=        .51          .01          .510 (iii)
00417>      TIME TO PEAK    (hrs)=       1.02         1.70         1.017
00418>      RUNOFF VOLUME    (mm)=      21.54         1.03         7.185
00419>      TOTAL RAINFALL   (mm)=      23.54        23.54        23.544
00420>      RUNOFF COEFFICIENT   =        .92          .04          .305
00421>
00422>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
00423>            CN* =  39.0    Ia = Dep. Storage  (Above)
00424>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
00425>            THAN THE STORAGE COEFFICIENT.
00426>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00427>
00428> ------------------------------------------------------------------------------
00429> 001:0017-------------------------------------------------------------------------
00430> ----------------------
00431> | CALIB STANDHYD     |   Area    (ha)=     .44
00432> | 02:C207   DT= 1.00 |   Total Imp(%)=   35.00   Dir. Conn.(%)=   25.00
00433> ----------------------
00434>                              IMPERVIOUS    PERVIOUS (i)
00435>      Surface Area     (ha)=        .15          .29
00436>      Dep. Storage     (mm)=       2.00         5.00
00437>      Average Slope     (%)=       1.00         2.00
00438>      Length            (m)=      90.00        25.00
00439>      Mannings n            =       .013         .250
00440>
00441>      Max.eff.Inten.(mm/hr)=      75.61         1.23
00442>                    over (min)        3.00        34.00
00443>      Storage Coeff.  (min)=       2.68 (ii)   33.63 (ii)
00444>      Unit Hyd. Tpeak (min)=       3.00        34.00
00445>      Unit Hyd. peak  (cms)=        .40          .03
00446>                                                      *TOTALS*
00447>      PEAK FLOW       (cms)=        .02          .00          .019 (iii)
00448>      TIME TO PEAK    (hrs)=       1.02         1.72         1.017
00449>      RUNOFF VOLUME    (mm)=      21.54         1.02         6.147
00450>      TOTAL RAINFALL   (mm)=      23.54        23.54        23.544
00451>      RUNOFF COEFFICIENT   =        .92          .04          .261
00452>
00453>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
00454>            CN* =  39.0    Ia = Dep. Storage  (Above)
00455>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
00456>            THAN THE STORAGE COEFFICIENT.
00457>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00458>
00459> ------------------------------------------------------------------------------
00460> 001:0018-------------------------------------------------------------------------
00461> ----------------------
00462> | COMPUTE DUALHYD    |  Average inlet capacities   [CINLET] =    .064  (cms)
00463> | TotalHyd 02:C207   |  Number of inlets in system [NINLET] =      1
00464> ----------------------  Total minor system capacity         =    .064  (cms)
00465>                         Total major system storage [TMJSTO] =      0.(cu.m.)
00466>
00467>                    ID: NHYD        AREA     QPEAK     TPEAK     R.V.      DWF
00468>                                    (ha)     (cms)     (hrs)     (mm)     (cms)
00469>      TOTAL HYD.   02:C207          .44      .019     1.017    6.147     .000
00470>      ================================================================================
00471>      MAJOR SYST   04:toET1          .00      .000      .000     .000     .000
00472>      MINOR SYST   03:toSWMF         .44      .019     1.017    6.147     .000
00473>
00474>      NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
00475>
00476> ------------------------------------------------------------------------------
00477> 001:0019-------------------------------------------------------------------------
00478> ----------------------
00479> | CALIB STANDHYD     |   Area    (ha)=     .93
00480> | 02:C208   DT= 1.00 |   Total Imp(%)=   35.00   Dir. Conn.(%)=   25.00
00481> ----------------------
00482>                              IMPERVIOUS    PERVIOUS (i)
00483>      Surface Area     (ha)=        .33          .60
00484>      Dep. Storage     (mm)=       2.00         5.00
00485>      Average Slope     (%)=       1.00         2.00
00486>      Length            (m)=      90.00        25.00
00487>      Mannings n            =       .013         .250
00488>
00489>      Max.eff.Inten.(mm/hr)=      75.61         1.23
00490>                    over (min)        3.00        34.00
00491>      Storage Coeff.  (min)=       2.68 (ii)   33.63 (ii)
00492>      Unit Hyd. Tpeak (min)=       3.00        34.00
00493>      Unit Hyd. peak  (cms)=        .40          .03
00494>                                                      *TOTALS*
00495>      PEAK FLOW       (cms)=        .04          .00          .041 (iii)
00496>      TIME TO PEAK    (hrs)=       1.02         1.72         1.017
00497>      RUNOFF VOLUME    (mm)=      21.54         1.02         6.147
00498>      TOTAL RAINFALL   (mm)=      23.54        23.54        23.544
00499>      RUNOFF COEFFICIENT   =        .92          .04          .261
00500>
00501>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
00502>            CN* =  39.0    Ia = Dep. Storage  (Above)
00503>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
00504>            THAN THE STORAGE COEFFICIENT.
00505>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00506>
00507> ------------------------------------------------------------------------------
00508> 001:0020-------------------------------------------------------------------------
00509> ----------------------
00510> | COMPUTE DUALHYD    |  Average inlet capacities   [CINLET] =    .119  (cms)
00511> | TotalHyd 02:C208   |  Number of inlets in system [NINLET] =      1
00512> ----------------------  Total minor system capacity         =    .119  (cms)
00513>                         Total major system storage [TMJSTO] =      0.(cu.m.)
00514>
00515>                    ID: NHYD        AREA     QPEAK     TPEAK     R.V.      DWF
00516>                                    (ha)     (cms)     (hrs)     (mm)     (cms)
00517>      TOTAL HYD.   02:C208          .93      .041     1.017    6.147     .000
00518>      ================================================================================
00519>      MAJOR SYST   06:toET2          .00      .000      .000     .000     .000
00520>      MINOR SYST   05:toSWMF         .93      .041     1.017    6.147     .000
00521>
00522>      NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
00523>
00524> ------------------------------------------------------------------------------
00525> 001:0021-------------------------------------------------------------------------
00526> ----------------------
00527> | CALIB STANDHYD     |   Area    (ha)=    1.29
00528> | 02:C203   DT= 1.00 |   Total Imp(%)=   68.00   Dir. Conn.(%)=   66.00
00529> ----------------------
00530>                              IMPERVIOUS    PERVIOUS (i)
00531>      Surface Area     (ha)=        .88          .41
00532>      Dep. Storage     (mm)=       2.00         5.00
00533>      Average Slope     (%)=        .50         2.00
00534>      Length            (m)=     100.00       100.00
00535>      Mannings n            =       .013         .250
00536>
00537>      Max.eff.Inten.(mm/hr)=      75.61         2.75
00538>                    over (min)        4.00        55.00
00539>      Storage Coeff.  (min)=       3.52 (ii)   54.99 (ii)
00540>      Unit Hyd. Tpeak (min)=       4.00        55.00
```

```
      Unit Hyd. peak  (cms)=        .31          .02
                                                          *TOTALS*
      PEAK FLOW       (cms)=        .14          .00          .135 (iii)
      TIME TO PEAK    (hrs)=       1.03         2.17         1.033
      RUNOFF VOLUME    (mm)=      21.54          .90        14.526
      TOTAL RAINFALL   (mm)=      23.54        23.54        23.544
      RUNOFF COEFFICIENT   =        .92          .04          .617

        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN* =  39.0    Ia = Dep. Storage  (Above)
       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
            THAN THE STORAGE COEFFICIENT.
      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

------------------------------------------------------------------------------
001:0022------------------------------------------------------------------------
------------------------
| ADD HYD (toSWMF    ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
------------------------                   (ha)     (cms)   (hrs)   (mm)   (cms)
                      ID1 01:C202          9.66      .510    1.02   7.18    .000
                     +ID2 02:C203          1.29      .135    1.03  14.53    .000
                     +ID3 03:toSWMF1        .44      .019    1.02   6.15    .000
                     +ID4 05:toSWMF2        .93      .041    1.02   6.15    .000
                      ==========================================================
                      SUM 07:toSWMF        12.32      .705    1.02   7.84    .000

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

------------------------------------------------------------------------------
001:0023------------------------------------------------------------------------
---------------------
| ROUTE RESERVOIR   |    Requested routing time step =  1.0 min.
|  IN>07:(toSWMF)   |
| OUT<01:(SWMF  )   |    ========  OUTLFOW STORAGE TABLE  ========
---------------------    OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
                           (cms)     (ha.m.)   |    (cms)    (ha.m.)
                           .000  .0000E+00   |     .340  .2740E+00
                           .011  .2900E-01   |     .697  .3140E+00
                           .015  .6000E-01   |    1.206  .3540E+00
                           .019  .9200E-01   |    1.880  .3960E+00
                           .022  .1260E+00   |    2.734  .4380E+00
                           .024  .1610E+00   |    3.779  .4820E+00
                           .027  .1980E+00   |    5.029  .5260E+00
                           .120  .2360E+00   |     .000  .0000E+00

     ROUTING RESULTS            AREA     QPEAK     TPEAK       R.V.
     -------------------         (ha)     (cms)     (hrs)       (mm)
     INFLOW >07: (toSWMF)      12.32      .705     1.017      7.838
     OUTFLOW<01: (SWMF  )      12.32      .018     3.050      7.838
    OVERFLOW<02: (OverQ )        .00      .000      .000       .000

                    TOTAL NUMBER OF SIMULATED OVERFLOWS  =        0
                    CUMULATIVE TIME OF OVERFLOWS  (hours)=      .00
                    PERCENTAGE OF TIME OVERFLOWING    (%)=      .00


                    PEAK   FLOW   REDUCTION [Qout/Qin](%)=    2.524
                    TIME SHIFT OF PEAK FLOW          (min)=   122.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=.8229E-01

------------------------------------------------------------------------------
001:0024------------------------------------------------------------------------
----------------------
| CALIB STANDHYD     |   Area    (ha)=   18.54
| 03:EX-2   DT= 1.00 |   Total Imp(%)=   35.00   Dir. Conn.(%)=   25.00
----------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       6.49         12.05
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       1.00          2.00
     Length            (m)=      90.00         50.00
     Mannings n            =       .013          .250

     Max.eff.Inten.(mm/hr)=      75.61          3.42
                   over (min)        3.00         34.00
     Storage Coeff.  (min)=       2.68 (ii)    33.82 (ii)
     Unit Hyd. Tpeak (min)=       3.00         34.00
     Unit Hyd. peak  (cms)=        .40           .03
                                                          *TOTALS*
     PEAK FLOW       (cms)=        .81           .02          .815 (iii)
     TIME TO PEAK    (hrs)=       1.02          1.72         1.017
     RUNOFF VOLUME    (mm)=      21.54          1.02         6.147
     TOTAL RAINFALL   (mm)=      23.54         23.54        23.544
     RUNOFF COEFFICIENT   =        .92           .04          .261

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  39.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

------------------------------------------------------------------------------
001:0025------------------------------------------------------------------------
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .51
| 05:C209   DT= 1.00 |   Total Imp(%)=   61.00   Dir. Conn.(%)=   55.00
----------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .31           .20
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       1.00          2.00
     Length            (m)=      90.00         10.00
     Mannings n            =       .013          .250

     Max.eff.Inten.(mm/hr)=      75.61          1.64
                   over (min)        3.00         19.00
     Storage Coeff.  (min)=       2.68 (ii)    18.60 (ii)
     Unit Hyd. Tpeak (min)=       3.00         19.00
     Unit Hyd. peak  (cms)=        .40           .06
                                                          *TOTALS*
     PEAK FLOW       (cms)=        .05           .00          .049 (iii)
     TIME TO PEAK    (hrs)=       1.02          1.42         1.017
     RUNOFF VOLUME    (mm)=      21.54          1.02        12.306
     TOTAL RAINFALL   (mm)=      23.54         23.54        23.544
     RUNOFF COEFFICIENT   =        .92           .04          .523

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  39.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

------------------------------------------------------------------------------
001:0026------------------------------------------------------------------------
----------------------
| COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .109  (cms)
| TotalHyd 05:C209   |   Number of inlets in system [NINLET] =      1
----------------------   Total minor system capacity          =    .109  (cms)
                         Total major system storage [TMJSTO] =      0.(cu.m.)

                  ID: NHYD        AREA     QPEAK     TPEAK      R.V.       DWF
                                   (ha)     (cms)     (hrs)      (mm)     (cms)
     TOTAL HYD.   05:C209          .51      .049     1.017    12.306     .000
     ==========================================================================
     MAJOR SYST   08:toET3         .00      .000      .000      .000     .000
     MINOR SYST   07:toWT1         .51      .049     1.017    12.306     .000

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

------------------------------------------------------------------------------
001:0027------------------------------------------------------------------------
------------------------
| ADD HYD (EAST-T    ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
------------------------                   (ha)     (cms)   (hrs)   (mm)   (cms)
                      ID1 01:SWMF         12.32      .018    3.05   7.84    .000
                     +ID2 02:OverQ          .00      .000     .00    .00    .000
                     +ID3 03:EX-2         18.54      .815    1.02   6.15    .000
                     +ID4 04:toET1          .00      .000     .00    .00    .000
                     +ID5 06:toET2          .00      .000     .00    .00    .000
                     +ID6 08:toET3          .00      .000     .00    .00    .000
                      ==========================================================
                      SUM 05:EAST-T        30.86      .825    1.02   6.82    .000

   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

------------------------------------------------------------------------------
001:0028------------------------------------------------------------------------
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .39
| 01:C210   DT= 1.00 |   Total Imp(%)=   90.00   Dir. Conn.(%)=   90.00
----------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .35           .04
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       1.00          2.00
     Length            (m)=      90.00         10.00
     Mannings n            =       .013          .250

     Max.eff.Inten.(mm/hr)=      75.61          1.05
                   over (min)        3.00         22.00
     Storage Coeff.  (min)=       2.68 (ii)    21.66 (ii)
     Unit Hyd. Tpeak (min)=       3.00         22.00
     Unit Hyd. peak  (cms)=        .40           .05
                                                          *TOTALS*
     PEAK FLOW       (cms)=        .06           .00          .062 (iii)
     TIME TO PEAK    (hrs)=       1.02          1.50         1.017
     RUNOFF VOLUME    (mm)=      21.54           .83        19.472
     TOTAL RAINFALL   (mm)=      23.54         23.54        23.544
     RUNOFF COEFFICIENT   =        .92           .04          .827

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  39.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

------------------------------------------------------------------------------
001:0029------------------------------------------------------------------------
----------------------
| CALIB NASHYD       |   Area    (ha)=    7.98   Curve Number   (CN)=62.00
| 02:C206   DT= 1.00 |   Ia      (mm)=   8.000   # of Linear Res.(N)= 3.00
----------------------  U.H. Tp(hrs)=    .540

     Unit Hyd Qpeak  (cms)=     .564

     PEAK FLOW       (cms)=     .017 (i)
     TIME TO PEAK    (hrs)=    1.933
     RUNOFF VOLUME    (mm)=    1.411
     TOTAL RAINFALL   (mm)=   23.544
     RUNOFF COEFFICIENT   =     .060

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

------------------------------------------------------------------------------
001:0030------------------------------------------------------------------------
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .54
| 03:C107   DT= 1.00 |   Total Imp(%)=   75.00   Dir. Conn.(%)=    1.00
----------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .41           .14
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       1.00          2.00
     Length            (m)=      90.00         40.00
     Mannings n            =       .013          .250

     Max.eff.Inten.(mm/hr)=      75.61         28.59
                   over (min)        3.00         14.00
     Storage Coeff.  (min)=       2.68 (ii)    14.33 (ii)
     Unit Hyd. Tpeak (min)=       3.00         14.00
     Unit Hyd. peak  (cms)=        .40           .08
                                                          *TOTALS*
     PEAK FLOW       (cms)=        .00           .01          .007 (iii)
     TIME TO PEAK    (hrs)=       1.02          1.27         1.267
     RUNOFF VOLUME    (mm)=      21.54          4.05         4.224
     TOTAL RAINFALL   (mm)=      23.54         23.54        23.544
     RUNOFF COEFFICIENT   =        .92           .17          .179

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  39.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

------------------------------------------------------------------------------
001:0031------------------------------------------------------------------------
------------------------
| ADD HYD (WEST-T    ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
------------------------                   (ha)     (cms)   (hrs)   (mm)   (cms)
                      ID1 01:C210           .39      .062    1.02  19.47    .000
                     +ID2 02:C206          7.98      .017    1.93   1.41    .000
                     +ID3 03:C107           .54      .007    1.27   4.22    .000
                     +ID4 07:toWT1          .51      .049    1.02  12.31    .000
                      ==========================================================
                      SUM 04:WEST-T        9.42      .114    1.02   2.91    .000

   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

------------------------------------------------------------------------------
001:0032------------------------------------------------------------------------
----------------------
| CALIB NASHYD       |   Area    (ha)=    6.96   Curve Number   (CN)=32.00
| 01:C201   DT= 1.00 |   Ia      (mm)=   8.000   # of Linear Res.(N)= 3.00
----------------------  U.H. Tp(hrs)=    .510

     Unit Hyd Qpeak  (cms)=     .521

     PEAK FLOW       (cms)=     .005 (i)
     TIME TO PEAK    (hrs)=    1.900
     RUNOFF VOLUME    (mm)=     .435
     TOTAL RAINFALL   (mm)=   23.544
     RUNOFF COEFFICIENT   =     .018

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

------------------------------------------------------------------------------
001:0033------------------------------------------------------------------------
----------------------
| CALIB NASHYD       |   Area    (ha)=    2.04   Curve Number   (CN)=55.00
| 02:C204   DT= 1.00 |   Ia      (mm)=   8.000   # of Linear Res.(N)= 3.00
```

```
00811> ----------------------   U.H. Tp(hrs)=    .480
00812>
00813>      Unit Hyd Qpeak  (cms)=     .162
00814>
00815>      PEAK FLOW       (cms)=     .004 (i)
00816>      TIME TO PEAK    (hrs)=    1.850
00817>      RUNOFF VOLUME    (mm)=    1.081
00818>      TOTAL RAINFALL   (mm)=   23.544
00819>      RUNOFF COEFFICIENT   =     .046
00820>
00821>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00822>
00823> ------------------------------------------------------------------------------
00824> 001:0034----------------------------------------------------------------------
00825> ------------------------
00826> | ADD HYD (NORTH-W   ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
00827> ------------------------                  (ha)     (cms)   (hrs)   (mm)   (cms)
00828>                       ID1 01:C201          6.96     .005    1.90    .44    .000
00829>                      +ID2 02:C204          2.04     .004    1.85   1.08    .000
00830>                       ========================================================
00831>                       SUM 03:NORTH-W        9.00     .008    1.87    .58    .000
00832>
00833>    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
00834>
00835> ------------------------------------------------------------------------------
00836> 001:0035----------------------------------------------------------------------
00837> ----------------------
00838> | CALIB NASHYD       |   Area    (ha)=   11.96   Curve Number   (CN)=44.00
00839> | 01:C205   DT= 1.00 |   Ia      (mm)=   8.000   # of Linear Res.(N)= 3.00
00840> ----------------------   U.H. Tp(hrs)=    .870
00841>
00842>      Unit Hyd Qpeak  (cms)=     .525
00843>
00844>      PEAK FLOW       (cms)=     .010 (i)
00845>      TIME TO PEAK    (hrs)=    2.467
00846>      RUNOFF VOLUME    (mm)=     .713
00847>      TOTAL RAINFALL   (mm)=   23.544
00848>      RUNOFF COEFFICIENT   =     .030
00849>
00850>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00851>
00852> ------------------------------------------------------------------------------
00853> 001:0036----------------------------------------------------------------------
00854> ----------------------
00855> | CALIB STANDHYD     |   Area    (ha)=     .61
00856> | 02:C108   DT= 1.00 |   Total Imp(%)=   75.00   Dir. Conn.(%)=    1.00
00857> ----------------------
00858>                              IMPERVIOUS    PERVIOUS (i)
00859>      Surface Area     (ha)=        .46          .15
00860>      Dep. Storage     (mm)=       2.00         5.00
00861>      Average Slope     (%)=       1.00         2.00
00862>      Length            (m)=      90.00        40.00
00863>      Mannings n            =       .013         .250
00864>
00865>      Max.eff.Inten.(mm/hr)=      75.61        28.59
00866>                    over (min)       3.00        14.00
00867>      Storage Coeff.  (min)=       2.68 (ii)   14.33 (ii)
00868>      Unit Hyd. Tpeak (min)=       3.00        14.00
00869>      Unit Hyd. peak  (cms)=        .40          .08
00870>                                                          *TOTALS*
00871>      PEAK FLOW       (cms)=        .00          .01          .007 (iii)
00872>      TIME TO PEAK    (hrs)=       1.02         1.27         1.267
00873>      RUNOFF VOLUME    (mm)=      21.54         4.05         4.224
00874>      TOTAL RAINFALL   (mm)=      23.54        23.54        23.544
00875>      RUNOFF COEFFICIENT   =        .92          .17          .179
00876>
00877>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
00878>            CN* =  39.0    Ia = Dep. Storage  (Above)
00879>         (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
00880>              THAN THE STORAGE COEFFICIENT.
00881>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00882>
00883> ------------------------------------------------------------------------------
00884> 001:0037----------------------------------------------------------------------
00885> ------------------------
00886> | ADD HYD (CENTER-W  ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
00887> ------------------------                  (ha)     (cms)   (hrs)   (mm)   (cms)
00888>                       ID1 01:C205         11.96     .010    2.47    .71    .000
00889>                      +ID2 02:C108           .61     .007    1.27   4.22    .000
00890>                       ========================================================
00891>                       SUM 04:CENTER-W      12.57     .012    2.30    .88    .000
00892>
00893>    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
00894>
00895> ------------------------------------------------------------------------------
00896> 001:0038----------------------------------------------------------------------
00897> *#*****************************************************************************
00898> *#                          ==========================================
00899> *#                           PROSPOSED ULTIMATE DEVELOPMENT CONDITIONS
00900> *#                          ==========================================
00901> *#*****************************************************************************
00902> ----------------------
00903> | CALIB STANDHYD     |   Area    (ha)=     .43
00904> | 01:B100   DT= 1.00 |   Total Imp(%)=   80.00   Dir. Conn.(%)=   60.00
00905> ----------------------
00906>                              IMPERVIOUS    PERVIOUS (i)
00907>      Surface Area     (ha)=        .34          .09
00908>      Dep. Storage     (mm)=       2.00         5.00
00909>      Average Slope     (%)=       1.00         2.00
00910>      Length            (m)=      90.00        25.00
00911>      Mannings n            =       .013         .250
00912>
00913>      Max.eff.Inten.(mm/hr)=      75.61         5.97
00914>                    over (min)       3.00        19.00
00915>      Storage Coeff.  (min)=       2.68 (ii)   19.12 (ii)
00916>      Unit Hyd. Tpeak (min)=       3.00        19.00
00917>      Unit Hyd. peak  (cms)=        .40          .06
00918>                                                          *TOTALS*
00919>      PEAK FLOW       (cms)=        .05          .00          .045 (iii)
00920>      TIME TO PEAK    (hrs)=       1.02         1.38         1.017
00921>      RUNOFF VOLUME    (mm)=      21.54         2.02        13.733
00922>      TOTAL RAINFALL   (mm)=      23.54        23.54        23.544
00923>      RUNOFF COEFFICIENT   =        .92          .09          .583
00924>
00925>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
00926>            CN* =  39.0    Ia = Dep. Storage  (Above)
00927>         (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
00928>              THAN THE STORAGE COEFFICIENT.
00929>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00930>
00931> ------------------------------------------------------------------------------
00932> 001:0039----------------------------------------------------------------------
00933> ----------------------
00934> | COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .077  (cms)
00935> | TotalHyd 01:B100   |   Number of inlets in system [NINLET] =      1
00936> ----------------------   Total minor system capacity          =    .077  (cms)
00937>                          Total major system storage [TMJSTO] =      0.(cu.m.)
00938>
00939>                    ID: NHYD        AREA     QPEAK     TPEAK     R.V.      DWF
00940>                                    (ha)     (cms)     (hrs)     (mm)     (cms)
00941>      TOTAL HYD.   01:B100          .43      .045     1.017   13.733     .000
00942>      ==========================================================================
00943>      MAJOR SYST   03:toCW1         .00      .000      .000     .000     .000
00944>      MINOR SYST   02:toSWMF        .43      .045     1.017   13.733     .000
00945>
00946>      NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
00947>
00948> ------------------------------------------------------------------------------
00949> 001:0040----------------------------------------------------------------------
00950> ----------------------
00951> | CALIB STANDHYD     |   Area    (ha)=    4.00
00952> | 01:C303   DT= 1.00 |   Total Imp(%)=   40.00   Dir. Conn.(%)=   30.00
00953> ----------------------
00954>                              IMPERVIOUS    PERVIOUS (i)
00955>      Surface Area     (ha)=       1.60         2.40
00956>      Dep. Storage     (mm)=       2.00         5.00
00957>      Average Slope     (%)=       1.00         2.00
00958>      Length            (m)=      90.00        25.00
00959>      Mannings n            =       .013         .250
00960>
00961>      Max.eff.Inten.(mm/hr)=      75.61         1.28
00962>                    over (min)       3.00        33.00
00963>      Storage Coeff.  (min)=       2.68 (ii)   33.10 (ii)
00964>      Unit Hyd. Tpeak (min)=       3.00        33.00
00965>      Unit Hyd. peak  (cms)=        .40          .03
00966>                                                          *TOTALS*
00967>      PEAK FLOW       (cms)=        .21          .00          .211 (iii)
00968>      TIME TO PEAK    (hrs)=       1.02         1.70         1.017
00969>      RUNOFF VOLUME    (mm)=      21.54         1.03         7.185
00970>      TOTAL RAINFALL   (mm)=      23.54        23.54        23.544
00971>      RUNOFF COEFFICIENT   =        .92          .04          .305
00972>
00973>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
00974>            CN* =  39.0    Ia = Dep. Storage  (Above)
00975>         (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
00976>              THAN THE STORAGE COEFFICIENT.
00977>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00978>
00979> ------------------------------------------------------------------------------
00980> 001:0041----------------------------------------------------------------------
00981> ----------------------
00982> | COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .440  (cms)
00983> | TotalHyd 01:C303   |   Number of inlets in system [NINLET] =      1
00984> ----------------------   Total minor system capacity          =    .440  (cms)
00985>                          Total major system storage [TMJSTO] =      0.(cu.m.)
00986>
00987>                    ID: NHYD        AREA     QPEAK     TPEAK     R.V.      DWF
00988>                                    (ha)     (cms)     (hrs)     (mm)     (cms)
00989>      TOTAL HYD.   01:C303          4.00      .211     1.017    7.185     .000
00990>      ==========================================================================
00991>      MAJOR SYST   05:toCW2         .00      .000      .000     .000     .000
00992>      MINOR SYST   04:toSWMF        4.00      .211     1.017    7.185     .000
00993>
00994>      NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
00995>
00996> ------------------------------------------------------------------------------
00997> 001:0042----------------------------------------------------------------------
00998> ----------------------
00999> | CALIB STANDHYD     |   Area    (ha)=    1.14
01000> | 01:C309   DT= 1.00 |   Total Imp(%)=   62.00   Dir. Conn.(%)=   57.00
01001> ----------------------
01002>                              IMPERVIOUS    PERVIOUS (i)
01003>      Surface Area     (ha)=        .71          .43
01004>      Dep. Storage     (mm)=       2.00         5.00
01005>      Average Slope     (%)=       1.00         2.00
01006>      Length            (m)=      90.00        25.00
01007>      Mannings n            =       .013         .250
01008>
01009>      Max.eff.Inten.(mm/hr)=      75.61         1.17
01010>                    over (min)       3.00        34.00
01011>      Storage Coeff.  (min)=       2.68 (ii)   34.23 (ii)
01012>      Unit Hyd. Tpeak (min)=       3.00        34.00
01013>      Unit Hyd. peak  (cms)=        .40          .03
01014>                                                          *TOTALS*
01015>      PEAK FLOW       (cms)=        .11          .00          .114 (iii)
01016>      TIME TO PEAK    (hrs)=       1.02         1.73         1.017
01017>      RUNOFF VOLUME    (mm)=      21.54          .99        12.705
01018>      TOTAL RAINFALL   (mm)=      23.54        23.54        23.544
01019>      RUNOFF COEFFICIENT   =        .92          .04          .540
01020>
01021>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
01022>            CN* =  39.0    Ia = Dep. Storage  (Above)
01023>         (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
01024>              THAN THE STORAGE COEFFICIENT.
01025>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
01026>
01027> ------------------------------------------------------------------------------
01028> 001:0043----------------------------------------------------------------------
01029> ----------------------
01030> | COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .237  (cms)
01031> | TotalHyd 01:C309   |   Number of inlets in system [NINLET] =      1
01032> ----------------------   Total minor system capacity          =    .237  (cms)
01033>                          Total major system storage [TMJSTO] =      0.(cu.m.)
01034>
01035>                    ID: NHYD        AREA     QPEAK     TPEAK     R.V.      DWF
01036>                                    (ha)     (cms)     (hrs)     (mm)     (cms)
01037>      TOTAL HYD.   01:C309          1.14      .114     1.017   12.705     .000
01038>      ==========================================================================
01039>      MAJOR SYST   07:toCW3         .00      .000      .000     .000     .000
01040>      MINOR SYST   06:toSWMF        1.14      .114     1.017   12.705     .000
01041>
01042>      NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
01043>
01044> ------------------------------------------------------------------------------
01045> 001:0044----------------------------------------------------------------------
01046> ----------------------
01047> | CALIB STANDHYD     |   Area    (ha)=     .27
01048> | 01:C308   DT= 1.00 |   Total Imp(%)=   90.00   Dir. Conn.(%)=   90.00
01049> ----------------------
01050>                              IMPERVIOUS    PERVIOUS (i)
01051>      Surface Area     (ha)=        .24          .03
01052>      Dep. Storage     (mm)=       2.00         5.00
01053>      Average Slope     (%)=       1.00         2.00
01054>      Length            (m)=      90.00        40.00
01055>      Mannings n            =       .013         .250
01056>
01057>      Max.eff.Inten.(mm/hr)=      75.61         2.34
01058>                    over (min)       3.00        34.00
01059>      Storage Coeff.  (min)=       2.68 (ii)   34.40 (ii)
01060>      Unit Hyd. Tpeak (min)=       3.00        34.00
01061>      Unit Hyd. peak  (cms)=        .40          .03
01062>                                                          *TOTALS*
01063>      PEAK FLOW       (cms)=        .04          .00          .043 (iii)
01064>      TIME TO PEAK    (hrs)=       1.02         1.75         1.017
01065>      RUNOFF VOLUME    (mm)=      21.54          .83        19.472
01066>      TOTAL RAINFALL   (mm)=      23.54        23.54        23.544
01067>      RUNOFF COEFFICIENT   =        .92          .04          .827
01068>
01069>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
01070>            CN* =  39.0    Ia = Dep. Storage  (Above)
01071>         (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
01072>              THAN THE STORAGE COEFFICIENT.
01073>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
01074>
01075> ------------------------------------------------------------------------------
01076> 001:0045----------------------------------------------------------------------
01077> ----------------------
01078> | COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .025  (cms)
01079> | TotalHyd 01:C308   |   Number of inlets in system [NINLET] =      1
01080> ----------------------   Total minor system capacity          =    .025  (cms)
```

```
                        Total major system storage [TMJSTO] =       0.(cu.m.)

                  ID: NHYD        AREA     QPEAK     TPEAK     R.V.      DWF
                                   (ha)     (cms)     (hrs)     (mm)    (cms)
    TOTAL HYD.   01:C308          .27      .043     1.017   19.472     .000
    ==========================================================================
    MAJOR SYST   09:toCW4         .03      .018     1.017   19.472     .000
    MINOR SYST   08:toSWMF        .24      .025      .967   19.472     .000

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

001:0046----------------------------------------------------------------------
 | CALIB NASHYD       |   Area    (ha)=    9.89   Curve Number    (CN)=34.00
 | 01:C304   DT= 1.00 |   Ia      (mm)=   8.000   # of Linear Res.(N)= 3.00
 ---------------------   U.H. Tp(hrs)=    .510

    Unit Hyd Qpeak  (cms)=     .741

    PEAK FLOW       (cms)=     .007 (i)
    TIME TO PEAK    (hrs)=    1.900
    RUNOFF VOLUME    (mm)=     .475
    TOTAL RAINFALL   (mm)=   23.544
    RUNOFF COEFFICIENT   =     .020

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

001:0047----------------------------------------------------------------------
 | ADD HYD (CENTER-W  ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
 ----------------------   ID1 01:C304        (ha)     (cms)   (hrs)   (mm)   (cms)
                         +ID2 03:toCW1       9.89      .007    1.90    .48    .000
                         +ID3 05:toCW2        .00      .000     .00    .00    .000
                         +ID4 07:toCW3        .00      .000     .00    .00    .000
                         +ID5 09:toCW4        .03      .018    1.02  19.47    .000
                          ========================================================
                          SUM 10:CENTER-W    9.92      .018    1.02    .53    .000

   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

001:0048----------------------------------------------------------------------
 | ROUTE RESERVOIR    |    Requested routing time step =  1.0 min.
 |  IN>10:(CENTER)    |
 | OUT<01:(CW-SSD)    |    =========  OUTLFOW STORAGE TABLE  =========
 ---------------------    OUTFLOW     STORAGE    |  OUTFLOW     STORAGE
                            (cms)     (ha.m.)    |     (cms)     (ha.m.)
                             .000  .0000E+00     |      .222   .6400E+00
                             .000  .3700E+00     |      .000   .0000E+00

    ROUTING RESULTS             AREA     QPEAK     TPEAK       R.V.
    ---------------------       (ha)     (cms)     (hrs)       (mm)
    INFLOW >10: (CENTER)        9.92      .018     1.017       .527
    OUTFLOW<01: (CW-SSD)        9.92      .000      .000       .000
   OVERFLOW<03: (toWT1 )         .00      .000      .000       .000

                  TOTAL NUMBER OF SIMULATED OVERFLOWS  =        0
                  CUMULATIVE TIME OF OVERFLOWS  (hours)=      .00
                  PERCENTAGE OF TIME OVERFLOWING    (%)=      .00

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=     .000
                  TIME SHIFT OF PEAK FLOW         (min)=   -61.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=.5226E-02

     *** WARNING: Outflow volume is less than inflow volume.

001:0049----------------------------------------------------------------------
 | CALIB STANDHYD     |   Area    (ha)=     .44
 | 05:C207   DT= 1.00 |   Total Imp(%)=   35.00   Dir. Conn.(%)=   25.00
 ---------------------
                                IMPERVIOUS    PERVIOUS (i)
    Surface Area     (ha)=          .15          .29
    Dep. Storage     (mm)=         2.00         5.00
    Average Slope     (%)=         1.00         2.00
    Length            (m)=        90.00        25.00
    Mannings n           =         .013         .250

    Max.eff.Inten.(mm/hr)=        75.61         1.23
                  over (min)          3.00        34.00
    Storage Coeff.  (min)=         2.68 (ii)   33.63 (ii)
    Unit Hyd. Tpeak (min)=         3.00        34.00
    Unit Hyd. peak  (cms)=          .40          .03
                                                          *TOTALS*
    PEAK FLOW       (cms)=          .02          .00          .019 (iii)
    TIME TO PEAK    (hrs)=         1.02         1.72         1.017
    RUNOFF VOLUME    (mm)=        21.54        1.02         6.147
    TOTAL RAINFALL   (mm)=        23.54        23.54        23.544
    RUNOFF COEFFICIENT   =          .92          .04          .261

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
          CN* =  39.0    Ia = Dep. Storage  (Above)
       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
            THAN THE STORAGE COEFFICIENT.
      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

001:0050----------------------------------------------------------------------
 | COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .064  (cms)
 | TotalHyd 05:C207   |   Number of inlets in system [NINLET] =      1
 ---------------------   Total minor system capacity           =    .064  (cms)
                         Total major system storage [TMJSTO] =       0.(cu.m.)

                  ID: NHYD        AREA     QPEAK     TPEAK     R.V.      DWF
                                   (ha)     (cms)     (hrs)     (mm)    (cms)
    TOTAL HYD.   05:C207          .44      .019     1.017    6.147     .000
    ==========================================================================
    MAJOR SYST   09:toET1         .00      .000      .000     .000     .000
    MINOR SYST   07:toSWMF        .44      .019     1.017    6.147     .000

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

001:0051----------------------------------------------------------------------
 | CALIB STANDHYD     |   Area    (ha)=     .93
 | 05:C208   DT= 1.00 |   Total Imp(%)=   35.00   Dir. Conn.(%)=   25.00
 ---------------------
                                IMPERVIOUS    PERVIOUS (i)
    Surface Area     (ha)=          .33          .60
    Dep. Storage     (mm)=         2.00         5.00
    Average Slope     (%)=         1.00         2.00
    Length            (m)=        90.00        25.00
    Mannings n           =         .013         .250

    Max.eff.Inten.(mm/hr)=        75.61         1.23
                  over (min)          3.00        34.00
    Storage Coeff.  (min)=         2.68 (ii)   33.63 (ii)
    Unit Hyd. Tpeak (min)=         3.00        34.00
    Unit Hyd. peak  (cms)=          .40          .03
                                                          *TOTALS*
    PEAK FLOW       (cms)=          .04          .00          .041 (iii)
    TIME TO PEAK    (hrs)=         1.02         1.72         1.017
    RUNOFF VOLUME    (mm)=        21.54        1.02         6.147
    TOTAL RAINFALL   (mm)=        23.54        23.54        23.544
    RUNOFF COEFFICIENT   =          .92          .04          .261

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
          CN* =  39.0    Ia = Dep. Storage  (Above)
       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
            THAN THE STORAGE COEFFICIENT.
      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

001:0052----------------------------------------------------------------------
 | COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .119  (cms)
 | TotalHyd 05:C208   |   Number of inlets in system [NINLET] =      1
 ---------------------   Total minor system capacity           =    .119  (cms)
                         Total major system storage [TMJSTO] =       0.(cu.m.)

                  ID: NHYD        AREA     QPEAK     TPEAK     R.V.      DWF
                                   (ha)     (cms)     (hrs)     (mm)    (cms)
    TOTAL HYD.   05:C208          .93      .041     1.017    6.147     .000
    ==========================================================================
    MAJOR SYST   03:toET2         .00      .000      .000     .000     .000
    MINOR SYST   01:toSWMF        .93      .041     1.017    6.147     .000

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

001:0053----------------------------------------------------------------------
 | ADD HYD (toSWMF1A  ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
 ----------------------   ID1 01:toSWMF6      (ha)     (cms)   (hrs)   (mm)   (cms)
                         +ID2 02:toSWMF1       .93      .041    1.02   6.15    .000
                         +ID3 04:toSWMF2       .43      .045    1.02  13.73    .000
                         +ID4 06:toSWMF3      4.00      .211    1.02   7.18    .000
                         +ID5 07:toSWMF5       1.14      .114    1.02  12.71    .000
                         +ID6 08:toSWMF4        .44      .019    1.02   6.15    .000
                          ========================================================
                          SUM 05:toSWMF1A       .24      .025     .97  19.47    .000
                                               7.18      .456    1.02   8.67    .000

   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

001:0054----------------------------------------------------------------------
 | CALIB STANDHYD     |   Area    (ha)=   12.10
 | 01:C302   DT= 1.00 |   Total Imp(%)=   41.00   Dir. Conn.(%)=   31.00
 ---------------------
                                IMPERVIOUS    PERVIOUS (i)
    Surface Area     (ha)=         4.96         7.14
    Dep. Storage     (mm)=         2.00         5.00
    Average Slope     (%)=         1.00         2.00
    Length            (m)=        90.00        25.00
    Mannings n           =         .013         .250

    Max.eff.Inten.(mm/hr)=        75.61         1.29
                  over (min)          3.00        33.00
    Storage Coeff.  (min)=         2.68 (ii)   33.02 (ii)
    Unit Hyd. Tpeak (min)=         3.00        33.00
    Unit Hyd. peak  (cms)=          .40          .03
                                                          *TOTALS*
    PEAK FLOW       (cms)=          .66          .01          .660 (iii)
    TIME TO PEAK    (hrs)=         1.02         1.70         1.017
    RUNOFF VOLUME    (mm)=        21.54        1.03         7.392
    TOTAL RAINFALL   (mm)=        23.54        23.54        23.544
    RUNOFF COEFFICIENT   =          .92          .04          .314

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
          CN* =  39.0    Ia = Dep. Storage  (Above)
       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
            THAN THE STORAGE COEFFICIENT.
      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

001:0055----------------------------------------------------------------------
 | CALIB STANDHYD     |   Area    (ha)=   1.29
 | 02:C203   DT= 1.00 |   Total Imp(%)=   68.00   Dir. Conn.(%)=   66.00
 ---------------------
                                IMPERVIOUS    PERVIOUS (i)
    Surface Area     (ha)=          .88          .41
    Dep. Storage     (mm)=         2.00         5.00
    Average Slope     (%)=          .50         2.00
    Length            (m)=       100.00       100.00
    Mannings n           =         .013         .250

    Max.eff.Inten.(mm/hr)=        75.61         2.75
                  over (min)          4.00        55.00
    Storage Coeff.  (min)=         3.52 (ii)   54.99 (ii)
    Unit Hyd. Tpeak (min)=         4.00        55.00
    Unit Hyd. peak  (cms)=          .31          .02
                                                          *TOTALS*
    PEAK FLOW       (cms)=          .14          .00          .135 (iii)
    TIME TO PEAK    (hrs)=         1.03         2.17         1.033
    RUNOFF VOLUME    (mm)=        21.54         .90        14.526
    TOTAL RAINFALL   (mm)=        23.54        23.54        23.544
    RUNOFF COEFFICIENT   =          .92          .04          .617

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
          CN* =  39.0    Ia = Dep. Storage  (Above)
       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
            THAN THE STORAGE COEFFICIENT.
      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

001:0056----------------------------------------------------------------------
 | ADD HYD (toSWMF2A  ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
 ----------------------   ID1 01:C302        (ha)     (cms)   (hrs)   (mm)   (cms)
                         +ID2 02:C203       12.10      .660    1.02   7.39    .000
                         +ID3 05:toSWMF1A     1.29      .135    1.03  14.53    .000
                          ========================================================
                          SUM 04:toSWMF2A     7.18      .456    1.02   8.67    .000
                                              20.57    1.251    1.02   8.29    .000

   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

001:0057----------------------------------------------------------------------
 | ROUTE RESERVOIR    |    Requested routing time step =  1.0 min.
 |  IN>04:(toSWMF)    |
 | OUT<01:(SWMF  )    |    =========  OUTLFOW STORAGE TABLE  =========
 ---------------------    OUTFLOW     STORAGE    |  OUTFLOW     STORAGE
                            (cms)     (ha.m.)    |     (cms)     (ha.m.)
                             .000  .0000E+00     |      .340   .2740E+00
                             .011  .2900E-01     |      .697   .3140E+00
                             .015  .6000E-01     |    1.206   .3540E+00
                             .019  .9200E-01     |    1.880   .3960E+00
                             .022  .1260E+00     |    2.734   .4380E+00
```

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                              .024  .1610E+00   |    3.779  .4820E+00
                              .027  .1980E+00   |    5.029  .5260E+00
                              .120  .2360E+00   |     .000  .0000E+00

     ROUTING RESULTS            AREA     QPEAK     TPEAK       R.V.
     ---------------             (ha)     (cms)     (hrs)       (mm)
     INFLOW >04: (toSWMF)      20.57     1.251     1.017      8.286
     OUTFLOW<01: (SWMF  )      20.57      .023     3.067      8.286
    OVERFLOW<02: (OverQ )        .00      .000      .000       .000

                    TOTAL NUMBER OF SIMULATED OVERFLOWS  =        0
                    CUMULATIVE TIME OF OVERFLOWS  (hours)=      .00
                    PERCENTAGE OF TIME OVERFLOWING    (%)=      .00


                    PEAK   FLOW   REDUCTION [Qout/Qin](%)=    1.873
                    TIME SHIFT OF PEAK FLOW          (min)=   123.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=.1508E+00

--------------------------------------------------------------------------------
001:0058--------------------------------------------------------------------------
----------
| CALIB STANDHYD     |   Area    (ha)=   18.54
| 04:EX-2   DT= 1.00 |   Total Imp(%)=   35.00   Dir. Conn.(%)=   25.00
----------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       6.49        12.05
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      90.00        50.00
     Mannings n            =       .013         .250

     Max.eff.Inten.(mm/hr)=      75.61         3.42
                  over (min)       3.00        34.00
     Storage Coeff.  (min)=       2.68 (ii)   33.82 (ii)
     Unit Hyd. Tpeak (min)=       3.00        34.00
     Unit Hyd. peak  (cms)=        .40          .03
                                                      *TOTALS*
     PEAK FLOW       (cms)=        .81          .02        .815 (iii)
     TIME TO PEAK    (hrs)=       1.02         1.72        1.017
     RUNOFF VOLUME    (mm)=      21.54         1.02        6.147
     TOTAL RAINFALL   (mm)=      23.54        23.54       23.544
     RUNOFF COEFFICIENT   =        .92          .04         .261

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  39.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
001:0059--------------------------------------------------------------------------
----------
| CALIB STANDHYD     |   Area    (ha)=     .51
| 05:C209   DT= 1.00 |   Total Imp(%)=   61.00   Dir. Conn.(%)=   55.00
----------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .31          .20
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      90.00        10.00
     Mannings n            =       .013         .250

     Max.eff.Inten.(mm/hr)=      75.61         1.64
                  over (min)       3.00        19.00
     Storage Coeff.  (min)=       2.68 (ii)   18.60 (ii)
     Unit Hyd. Tpeak (min)=       3.00        19.00
     Unit Hyd. peak  (cms)=        .40          .06
                                                      *TOTALS*
     PEAK FLOW       (cms)=        .05          .00        .049 (iii)
     TIME TO PEAK    (hrs)=       1.02         1.42        1.017
     RUNOFF VOLUME    (mm)=      21.54         1.02       12.306
     TOTAL RAINFALL   (mm)=      23.54        23.54       23.544
     RUNOFF COEFFICIENT   =        .92          .04         .523

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  39.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
001:0060--------------------------------------------------------------------------
----------
| COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .109  (cms)
| TotalHyd 05:C209   |   Number of inlets in system [NINLET] =       1
----------------------   Total minor system capacity          =    .109  (cms)
                         Total major system storage [TMJSTO] =      0.(cu.m.)

                   ID: NHYD        AREA     QPEAK     TPEAK     R.V.      DWF
                                    (ha)     (cms)     (hrs)     (mm)    (cms)
     TOTAL HYD.   05:C209          .51      .049     1.017   12.306     .000
     ==========================================================================
     MAJOR SYST   07:toET3         .00      .000      .000     .000     .000
     MINOR SYST   06:toWT2         .51      .049     1.017   12.306     .000

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
001:0061--------------------------------------------------------------------------
----------
| ADD HYD (EAST-T    ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
----------------------- --                (ha)     (cms)   (hrs)   (mm)   (cms)
                         ID1 01:SWMF      20.57     .023    3.07   8.29    .000
                        +ID2 02:OverQ       .00     .000     .00    .00    .000
                        +ID3 03:toET2       .00     .000     .00    .00    .000
                        +ID4 04:EX-2      18.54     .815    1.02   6.15    .000
                        +ID5 07:toET3       .00     .000     .00    .00    .000
                        +ID6 09:toET1       .00     .000     .00    .00    .000
                         ==========================================================
                         SUM 05:EAST-T    39.11     .829    1.02   7.27    .000

   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
001:0062--------------------------------------------------------------------------
----------
| CALIB STANDHYD     |   Area    (ha)=     .39
| 01:C210   DT= 1.00 |   Total Imp(%)=   90.00   Dir. Conn.(%)=   90.00
----------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .35          .04
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      90.00        10.00
     Mannings n            =       .013         .250

     Max.eff.Inten.(mm/hr)=      75.61         1.05
                  over (min)       3.00        22.00
     Storage Coeff.  (min)=       2.68 (ii)   21.66 (ii)
     Unit Hyd. Tpeak (min)=       3.00        22.00
     Unit Hyd. peak  (cms)=        .40          .05
                                                      *TOTALS*
     PEAK FLOW       (cms)=        .06          .00        .062 (iii)
     TIME TO PEAK    (hrs)=       1.02         1.50        1.017
     RUNOFF VOLUME    (mm)=      21.54          .83       19.472
     TOTAL RAINFALL   (mm)=      23.54        23.54       23.544
     RUNOFF COEFFICIENT   =        .92          .04         .827

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  39.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
001:0063--------------------------------------------------------------------------
----------
| CALIB STANDHYD     |   Area    (ha)=     .27
| 02:C307   DT= 1.00 |   Total Imp(%)=   90.00   Dir. Conn.(%)=    1.00
----------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .24          .03
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      90.00        10.00
     Mannings n            =       .013         .250

     Max.eff.Inten.(mm/hr)=      75.61       231.46
                  over (min)       3.00         5.00
     Storage Coeff.  (min)=       2.68 (ii)    4.88 (ii)
     Unit Hyd. Tpeak (min)=       3.00         5.00
     Unit Hyd. peak  (cms)=        .40          .23
                                                      *TOTALS*
     PEAK FLOW       (cms)=        .00          .01          .012 (iii)
     TIME TO PEAK    (hrs)=       1.02         1.07         1.067
     RUNOFF VOLUME    (mm)=      21.54         8.40         8.534
     TOTAL RAINFALL   (mm)=      23.54        23.54        23.544
     RUNOFF COEFFICIENT   =        .92          .36          .362

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  39.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
001:0064--------------------------------------------------------------------------
----------
| CALIB STANDHYD     |   Area    (ha)=    2.61
| 03:C305   DT= 1.00 |   Total Imp(%)=   76.00   Dir. Conn.(%)=   57.00
----------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.98          .63
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      90.00        25.00
     Mannings n            =       .013         .250

     Max.eff.Inten.(mm/hr)=      75.61         4.45
                  over (min)       3.00        21.00
     Storage Coeff.  (min)=       2.68 (ii)   21.16 (ii)
     Unit Hyd. Tpeak (min)=       3.00        21.00
     Unit Hyd. peak  (cms)=        .40          .05
                                                      *TOTALS*
     PEAK FLOW       (cms)=        .26          .00          .262 (iii)
     TIME TO PEAK    (hrs)=       1.02         1.43         1.017
     RUNOFF VOLUME    (mm)=      21.54         1.78        13.044
     TOTAL RAINFALL   (mm)=      23.54        23.54        23.544
     RUNOFF COEFFICIENT   =        .92          .08          .554

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  39.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
001:0065--------------------------------------------------------------------------
----------
| COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .030  (cms)
| TotalHyd 03:C305   |   Number of inlets in system [NINLET] =       1
----------------------   Total minor system capacity          =    .030  (cms)
                         Total major system storage [TMJSTO] =     730.(cu.m.)

                   ID: NHYD        AREA     QPEAK     TPEAK     R.V.      DWF
                                    (ha)     (cms)     (hrs)     (mm)    (cms)
     TOTAL HYD.   03:C305          2.61      .262     1.017   13.044     .000
     ==========================================================================
     MAJOR SYST   07:toWT3         .00      .000      .000     .000     .000
     MINOR SYST   04:toPD          2.61      .030      .800   13.098     .000

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

     Maximum MAJOR SYSTEM storage used =     172.(cu.m.)

--------------------------------------------------------------------------------
001:0066--------------------------------------------------------------------------
----------
| CALIB NASHYD       |   Area    (ha)=    1.77   Curve Number   (CN)=36.00
| 03:C306   DT= 1.00 |   Ia      (mm)=   8.000   # of Linear Res.(N)= 3.00
----------------------   U.H. Tp(hrs)=    .580

     Unit Hyd Qpeak  (cms)=     .117

     PEAK FLOW       (cms)=     .001 (i)
     TIME TO PEAK    (hrs)=    2.017
     RUNOFF VOLUME    (mm)=     .517
     TOTAL RAINFALL   (mm)=   23.544
     RUNOFF COEFFICIENT   =     .022

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
001:0067--------------------------------------------------------------------------
----------
| ADD HYD (WEST-T    ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
----------------------- --                (ha)     (cms)   (hrs)   (mm)   (cms)
                         ID1 01:C210         .39      .062    1.02  19.47    .000
                        +ID2 02:C307         .27      .012    1.07   8.53    .000
                        +ID3 03:C306        1.77      .001    2.02    .52    .000
                        +ID4 04:toPD        2.61      .030     .80  13.10    .000
                        +ID5 06:toWT2        .51      .049    1.02  12.31    .000
                        +ID6 07:toWT3        .00      .000     .00    .00    .000
                         ==========================================================
                         SUM 08:WEST-T       5.55      .151    1.02   9.24    .000

   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
001:0068--------------------------------------------------------------------------
----------
| CALIB NASHYD       |   Area    (ha)=    7.88   Curve Number   (CN)=32.00
| 01:C301   DT= 1.00 |   Ia      (mm)=   8.000   # of Linear Res.(N)= 3.00
----------------------   U.H. Tp(hrs)=    .510

     Unit Hyd Qpeak  (cms)=     .590

     PEAK FLOW       (cms)=     .005 (i)
     TIME TO PEAK    (hrs)=    1.900
```

```
      RUNOFF VOLUME    (mm)=     .435
      TOTAL RAINFALL   (mm)=   23.544
      RUNOFF COEFFICIENT   =     .018

      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
001:0069--------------------------------------------------------------------------
*#**************************************************************************
*#
*#                                        5-year
*#                                       =======
*#
*#**************************************************************************
 ---------------------
| CHICAGO STORM    |    IDF curve parameters: A=1137.257
| Ptotal= 44.36 mm |                          B=   7.184
 ---------------------                       C=    .830
                          used in:   INTENSITY =  A / (t + B)^C

                          Duration of storm  =  3.00 hrs
                          Storm time step    =  5.00 min
                          Time to peak ratio =   .33

               TIME    RAIN |   TIME    RAIN |   TIME    RAIN |   TIME    RAIN
                hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr
                .08   3.263 |    .83  20.866 |   1.58  10.120 |   2.33   4.397
                .17   3.582 |    .92  49.986 |   1.67   8.819 |   2.42   4.145
                .25   3.976 |   1.00 142.775 |   1.75   7.817 |   2.50   3.921
                .33   4.476 |   1.08  64.719 |   1.83   7.022 |   2.58   3.722
                .42   5.130 |   1.17  35.904 |   1.92   6.377 |   2.67   3.543
                .50   6.023 |   1.25  24.205 |   2.00   5.844 |   2.75   3.382
                .58   7.313 |   1.33  18.064 |   2.08   5.395 |   2.83   3.235
                .67   9.334 |   1.42  14.343 |   2.17   5.013 |   2.92   3.102
                .75  12.924 |   1.50  11.871 |   2.25   4.684 |   3.00   2.979

--------------------------------------------------------------------------------
001:0070--------------------------------------------------------------------------
*#**************************************************************************
*#                                  ====================
*#                                   EXISTING CONDITIONS
*#                                  ====================
*#**************************************************************************
 ----------------------
| CALIB STANDHYD     |   Area    (ha)=   18.54
| 01:EX-1    DT= 1.00 |   Total Imp(%)=   35.00   Dir. Conn.(%)=   25.00
 ----------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       6.49         12.05
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       1.00          2.00
     Length            (m)=      90.00         50.00
     Mannings n           =       .013          .250

     Max.eff.Inten.(mm/hr)=     142.78          6.09
                   over (min)       2.00         27.00
     Storage Coeff.  (min)=       2.08 (ii)    26.80 (ii)
     Unit Hyd. Tpeak (min)=       2.00         27.00
     Unit Hyd. peak  (cms)=        .54           .04
                                                          *TOTALS*
     PEAK FLOW       (cms)=       1.69           .12          1.694 (iii)
     TIME TO PEAK    (hrs)=       1.00          1.53          1.000
     RUNOFF VOLUME    (mm)=      42.36          4.17         13.715
     TOTAL RAINFALL   (mm)=      44.36         44.36         44.356
     RUNOFF COEFFICIENT   =        .95           .09           .309

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  39.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
001:0071--------------------------------------------------------------------------
 ----------------------
| CALIB NASHYD       |   Area    (ha)=    9.06   Curve Number   (CN)=40.00
| 02:C101    DT= 1.00 |   Ia      (mm)=   8.000   # of Linear Res.(N)= 3.00
 ----------------------  U.H. Tp(hrs)=    .510

     Unit Hyd Qpeak  (cms)=     .679

     PEAK FLOW       (cms)=     .050 (i)
     TIME TO PEAK    (hrs)=    1.767
     RUNOFF VOLUME    (mm)=    3.167
     TOTAL RAINFALL   (mm)=   44.356
     RUNOFF COEFFICIENT   =     .071

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
001:0072--------------------------------------------------------------------------
 ----------------------
| CALIB NASHYD       |   Area    (ha)=   13.09   Curve Number   (CN)=47.00
| 03:C102    DT= 1.00 |   Ia      (mm)=   8.000   # of Linear Res.(N)= 3.00
 ----------------------  U.H. Tp(hrs)=    .850

     Unit Hyd Qpeak  (cms)=     .588

     PEAK FLOW       (cms)=     .068 (i)
     TIME TO PEAK    (hrs)=    2.233
     RUNOFF VOLUME    (mm)=    4.095
     TOTAL RAINFALL   (mm)=   44.356
     RUNOFF COEFFICIENT   =     .092

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
001:0073--------------------------------------------------------------------------
 ----------------------
| CALIB STANDHYD     |   Area    (ha)=    .61
| 04:C108    DT= 1.00 |   Total Imp(%)=   75.00   Dir. Conn.(%)=    1.00
 ----------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .46           .15
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       1.00          2.00
     Length            (m)=      90.00         40.00
     Mannings n           =       .013          .250

     Max.eff.Inten.(mm/hr)=     142.78        115.78
                   over (min)       2.00          9.00
     Storage Coeff.  (min)=       2.08 (ii)     8.74 (ii)
     Unit Hyd. Tpeak (min)=       2.00          9.00
     Unit Hyd. peak  (cms)=        .54           .13
                                                          *TOTALS*
     PEAK FLOW       (cms)=        .00           .03           .032 (iii)
     TIME TO PEAK    (hrs)=       1.00          1.15          1.150
     RUNOFF VOLUME    (mm)=      42.36         12.95         13.243
     TOTAL RAINFALL   (mm)=      44.36         44.36         44.356
     RUNOFF COEFFICIENT   =        .95           .29           .299

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  39.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
001:0074--------------------------------------------------------------------------
 ----------------------
| ADD HYD (CENTER-W  ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
 ----------------------                    (ha)     (cms)   (hrs)   (mm)    (cms)
                      ID1 03:C102          13.09     .068    2.23   4.09    .000
                     +ID2 04:C108            .61     .032    1.15  13.24    .000
                      ==========================================================
                      SUM 05:CENTER-W      13.70     .073    2.18   4.50    .000

   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
001:0075--------------------------------------------------------------------------
 ----------------------
| CALIB NASHYD       |   Area    (ha)=    9.17   Curve Number   (CN)=64.00
| 03:C104    DT= 1.00 |   Ia      (mm)=   8.000   # of Linear Res.(N)= 3.00
 ----------------------  U.H. Tp(hrs)=    .590

     Unit Hyd Qpeak  (cms)=     .594

     PEAK FLOW       (cms)=     .110 (i)
     TIME TO PEAK    (hrs)=    1.867
     RUNOFF VOLUME    (mm)=    7.375
     TOTAL RAINFALL   (mm)=   44.356
     RUNOFF COEFFICIENT   =     .166

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
001:0076--------------------------------------------------------------------------
 ----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.63
| 04:C105    DT= 1.00 |   Total Imp(%)=   56.00   Dir. Conn.(%)=   50.00
 ----------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .91           .72
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       1.00          2.00
     Length            (m)=      90.00         40.00
     Mannings n           =       .013          .250

     Max.eff.Inten.(mm/hr)=     142.78          6.43
                   over (min)       2.00         23.00
     Storage Coeff.  (min)=       2.08 (ii)    23.23 (ii)
     Unit Hyd. Tpeak (min)=       2.00         23.00
     Unit Hyd. peak  (cms)=        .54           .05
                                                          *TOTALS*
     PEAK FLOW       (cms)=        .30           .01           .297 (iii)
     TIME TO PEAK    (hrs)=       1.00          1.47          1.000
     RUNOFF VOLUME    (mm)=      42.36          4.10         23.227
     TOTAL RAINFALL   (mm)=      44.36         44.36         44.356
     RUNOFF COEFFICIENT   =        .95           .09           .524

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  39.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
001:0077--------------------------------------------------------------------------
 ----------------------
| ADD HYD (EAST-T    ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
 ----------------------                    (ha)     (cms)   (hrs)   (mm)    (cms)
                      ID1 01:EX-1          18.54    1.694    1.00  13.71    .000
                     +ID2 03:C104           9.17     .110    1.87   7.37    .000
                     +ID3 04:C105           1.63     .297    1.00  23.23    .000
                      ==========================================================
                      SUM 06:EAST-T        29.34    1.992    1.00  12.26    .000

   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
001:0078--------------------------------------------------------------------------
 ----------------------
| CALIB NASHYD       |   Area    (ha)=    8.73   Curve Number   (CN)=62.00
| 01:C103    DT= 1.00 |   Ia      (mm)=   8.000   # of Linear Res.(N)= 3.00
 ----------------------  U.H. Tp(hrs)=    .540

     Unit Hyd Qpeak  (cms)=     .617

     PEAK FLOW       (cms)=     .103 (i)
     TIME TO PEAK    (hrs)=    1.783
     RUNOFF VOLUME    (mm)=    6.883
     TOTAL RAINFALL   (mm)=   44.356
     RUNOFF COEFFICIENT   =     .155

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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001:0079--------------------------------------------------------------------------
 ----------------------
| CALIB STANDHYD     |   Area    (ha)=     .47
| 03:C106    DT= 1.00 |   Total Imp(%)=   75.00   Dir. Conn.(%)=    1.00
 ----------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .35           .12
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       1.00          2.00
     Length            (m)=      90.00         40.00
     Mannings n           =       .013          .250

     Max.eff.Inten.(mm/hr)=     142.78        115.78
                   over (min)       2.00          9.00
     Storage Coeff.  (min)=       2.08 (ii)     8.74 (ii)
     Unit Hyd. Tpeak (min)=       2.00          9.00
     Unit Hyd. peak  (cms)=        .54           .13
                                                          *TOTALS*
     PEAK FLOW       (cms)=        .00           .02           .025 (iii)
     TIME TO PEAK    (hrs)=       1.00          1.15          1.150
     RUNOFF VOLUME    (mm)=      42.36         12.95         13.243
     TOTAL RAINFALL   (mm)=      44.36         44.36         44.356
     RUNOFF COEFFICIENT   =        .95           .29           .299

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  39.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
001:0080--------------------------------------------------------------------------
 ----------------------
| CALIB STANDHYD     |   Area    (ha)=     .54
| 04:C107    DT= 1.00 |   Total Imp(%)=   75.00   Dir. Conn.(%)=    1.00
 ----------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .41           .14
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       1.00          2.00
     Length            (m)=      90.00         40.00
     Mannings n           =       .013          .250
```

```
01891>
01892>      Max.eff.Inten.(mm/hr)=     142.78       115.78
01893>                 over (min)        2.00         9.00
01894>      Storage Coeff.  (min)=       2.08 (ii)    8.74 (ii)
01895>      Unit Hyd. Tpeak (min)=       2.00         9.00
01896>      Unit Hyd. peak  (cms)=        .54          .13
01897>                                                        *TOTALS*
01898>      PEAK FLOW       (cms)=        .00          .03          .028 (iii)
01899>      TIME TO PEAK    (hrs)=       1.00         1.15         1.150
01900>      RUNOFF VOLUME    (mm)=      42.36        12.95        13.243
01901>      TOTAL RAINFALL   (mm)=      44.36        44.36        44.356
01902>      RUNOFF COEFFICIENT   =        .95          .29          .299
01903>
01904>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
01905>            CN* =  39.0    Ia = Dep. Storage  (Above)
01906>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
01907>            THAN THE STORAGE COEFFICIENT.
01908>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
01909>
01910> ------------------------------------------------------------------------------
01911> 001:0081--------------------------------------------------------------------------
01912> ----------------------
01913> | ADD HYD (WEST-T   ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
01914> ----------------------                   (ha)     (cms)   (hrs)   (mm)   (cms)
01915>                      ID1 01:C103          8.73     .103    1.78   6.88    .000
01916>                     +ID2 03:C106           .47     .025    1.15  13.24    .000
01917>                     +ID3 04:C107           .54     .028    1.15  13.24    .000
01918>                      ============================================================
01919>                      SUM 07:WEST-T         9.74     .118    1.70   7.54    .000
01920>
01921>    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
01922>
01923> ------------------------------------------------------------------------------
01924> 001:0082--------------------------------------------------------------------------
01925> ----------------------
01926> | CALIB STANDHYD     |   Area    (ha)=     .17
01927> | 01:C109   DT= 1.00 |   Total Imp(%)=   75.00   Dir. Conn.(%)=    1.00
01928> ----------------------
01929>                              IMPERVIOUS    PERVIOUS (i)
01930>      Surface Area     (ha)=        .13          .04
01931>      Dep. Storage     (mm)=       2.00         5.00
01932>      Average Slope     (%)=       1.00         2.00
01933>      Length            (m)=      90.00        40.00
01934>      Mannings n             =       .013         .250
01935>
01936>      Max.eff.Inten.(mm/hr)=     142.78       115.78
01937>                 over (min)        2.00         9.00
01938>      Storage Coeff.  (min)=       2.08 (ii)    8.74 (ii)
01939>      Unit Hyd. Tpeak (min)=       2.00         9.00
01940>      Unit Hyd. peak  (cms)=        .55          .13
01941>                                                        *TOTALS*
01942>      PEAK FLOW       (cms)=        .00          .01          .009 (iii)
01943>      TIME TO PEAK    (hrs)=       1.00         1.15         1.150
01944>      RUNOFF VOLUME    (mm)=      42.36        12.95        13.243
01945>      TOTAL RAINFALL   (mm)=      44.36        44.36        44.356
01946>      RUNOFF COEFFICIENT   =        .95          .29          .299
01947>
01948>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
01949>            CN* =  39.0    Ia = Dep. Storage  (Above)
01950>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
01951>            THAN THE STORAGE COEFFICIENT.
01952>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
01953>
01954> ------------------------------------------------------------------------------
01955> 001:0083--------------------------------------------------------------------------
01956> *#*************************************************************************
01957> *#                          ==========================================
01958> *#                           PROSPOSED INTERIM DEVELOPMENT CONDITIONS
01959> *#                          ==========================================
01960> *#*************************************************************************
01961> ----------------------
01962> | CALIB STANDHYD     |   Area    (ha)=    9.66
01963> | 01:C202   DT= 1.00 |   Total Imp(%)=   40.00   Dir. Conn.(%)=   30.00
01964> ----------------------
01965>                              IMPERVIOUS    PERVIOUS (i)
01966>      Surface Area     (ha)=       3.86         5.80
01967>      Dep. Storage     (mm)=       2.00         5.00
01968>      Average Slope     (%)=       1.00         2.00
01969>      Length            (m)=      90.00        25.00
01970>      Mannings n             =       .013         .250
01971>
01972>      Max.eff.Inten.(mm/hr)=     142.78         7.92
01973>                 over (min)        2.00        17.00
01974>      Storage Coeff.  (min)=       2.08 (ii)   16.76 (ii)
01975>      Unit Hyd. Tpeak (min)=       2.00        17.00
01976>      Unit Hyd. peak  (cms)=        .54          .07
01977>                                                        *TOTALS*
01978>      PEAK FLOW       (cms)=       1.06          .07         1.063 (iii)
01979>      TIME TO PEAK    (hrs)=       1.00         1.35         1.000
01980>      RUNOFF VOLUME    (mm)=      42.36         4.22        15.660
01981>      TOTAL RAINFALL   (mm)=      44.36        44.36        44.356
01982>      RUNOFF COEFFICIENT   =        .95          .10          .353
01983>
01984>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
01985>            CN* =  39.0    Ia = Dep. Storage  (Above)
01986>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
01987>            THAN THE STORAGE COEFFICIENT.
01988>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
01989>
01990> ------------------------------------------------------------------------------
01991> 001:0084--------------------------------------------------------------------------
01992> ----------------------
01993> | CALIB STANDHYD     |   Area    (ha)=     .44
01994> | 02:C207   DT= 1.00 |   Total Imp(%)=   35.00   Dir. Conn.(%)=   25.00
01995> ----------------------
01996>                              IMPERVIOUS    PERVIOUS (i)
01997>      Surface Area     (ha)=        .15          .29
01998>      Dep. Storage     (mm)=       2.00         5.00
01999>      Average Slope     (%)=       1.00         2.00
02000>      Length            (m)=      90.00        25.00
02001>      Mannings n             =       .013         .250
02002>
02003>      Max.eff.Inten.(mm/hr)=     142.78         7.73
02004>                 over (min)        2.00        17.00
02005>      Storage Coeff.  (min)=       2.08 (ii)   16.90 (ii)
02006>      Unit Hyd. Tpeak (min)=       2.00        17.00
02007>      Unit Hyd. peak  (cms)=        .54          .07
02008>                                                        *TOTALS*
02009>      PEAK FLOW       (cms)=        .04          .00          .040 (iii)
02010>      TIME TO PEAK    (hrs)=       1.00         1.35         1.000
02011>      RUNOFF VOLUME    (mm)=      42.36         4.17        13.715
02012>      TOTAL RAINFALL   (mm)=      44.36        44.36        44.356
02013>      RUNOFF COEFFICIENT   =        .95          .09          .309
02014>
02015>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
02016>            CN* =  39.0    Ia = Dep. Storage  (Above)
02017>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
02018>            THAN THE STORAGE COEFFICIENT.
02019>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
02020>
02021> ------------------------------------------------------------------------------
02022> 001:0085--------------------------------------------------------------------------
02023> ----------------------
02024> | COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .064  (cms)
02025> | TotalHyd 02:C207   |   Number of inlets in system [NINLET] =       1
02026> ----------------------   Total minor system capacity         =    .064  (cms)
02027>                          Total major system storage [TMJSTO] =       0.(cu.m.)
02028>
02029>                      ID: NHYD        AREA     QPEAK     TPEAK     R.V.      DWF
02030>                                      (ha)     (cms)     (hrs)     (mm)    (cms)
02031>      TOTAL HYD.   02:C207           .44      .040     1.000   13.715     .000
02032>      ================================================================================
02033>      MAJOR SYST   04:toET1          .00      .000      .000     .000     .000
02034>      MINOR SYST   03:toSWMF         .44      .040     1.000   13.715     .000
02035>
02036>      NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
02037>
02038> ------------------------------------------------------------------------------
02039> 001:0086--------------------------------------------------------------------------
02040> ----------------------
02041> | CALIB STANDHYD     |   Area    (ha)=     .93
02042> | 02:C208   DT= 1.00 |   Total Imp(%)=   35.00   Dir. Conn.(%)=   25.00
02043> ----------------------
02044>                              IMPERVIOUS    PERVIOUS (i)
02045>      Surface Area     (ha)=        .33          .60
02046>      Dep. Storage     (mm)=       2.00         5.00
02047>      Average Slope     (%)=       1.00         2.00
02048>      Length            (m)=      90.00        25.00
02049>      Mannings n             =       .013         .250
02050>
02051>      Max.eff.Inten.(mm/hr)=     142.78         7.73
02052>                 over (min)        2.00        17.00
02053>      Storage Coeff.  (min)=       2.08 (ii)   16.90 (ii)
02054>      Unit Hyd. Tpeak (min)=       2.00        17.00
02055>      Unit Hyd. peak  (cms)=        .54          .07
02056>                                                        *TOTALS*
02057>      PEAK FLOW       (cms)=        .08          .01          .085 (iii)
02058>      TIME TO PEAK    (hrs)=       1.00         1.35         1.000
02059>      RUNOFF VOLUME    (mm)=      42.36         4.17        13.715
02060>      TOTAL RAINFALL   (mm)=      44.36        44.36        44.356
02061>      RUNOFF COEFFICIENT   =        .95          .09          .309
02062>
02063>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
02064>            CN* =  39.0    Ia = Dep. Storage  (Above)
02065>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
02066>            THAN THE STORAGE COEFFICIENT.
02067>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
02068>
02069> ------------------------------------------------------------------------------
02070> 001:0087--------------------------------------------------------------------------
02071> ----------------------
02072> | COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .119  (cms)
02073> | TotalHyd 02:C208   |   Number of inlets in system [NINLET] =       1
02074> ----------------------   Total minor system capacity         =    .119  (cms)
02075>                          Total major system storage [TMJSTO] =       0.(cu.m.)
02076>
02077>                      ID: NHYD        AREA     QPEAK     TPEAK     R.V.      DWF
02078>                                      (ha)     (cms)     (hrs)     (mm)    (cms)
02079>      TOTAL HYD.   02:C208           .93      .085     1.000   13.715     .000
02080>      ================================================================================
02081>      MAJOR SYST   06:toET2          .00      .000      .000     .000     .000
02082>      MINOR SYST   05:toSWMF         .93      .085     1.000   13.715     .000
02083>
02084>      NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
02085>
02086> ------------------------------------------------------------------------------
02087> 001:0088--------------------------------------------------------------------------
02088> ----------------------
02089> | CALIB STANDHYD     |   Area    (ha)=    1.29
02090> | 02:C203   DT= 1.00 |   Total Imp(%)=   68.00   Dir. Conn.(%)=   66.00
02091> ----------------------
02092>                              IMPERVIOUS    PERVIOUS (i)
02093>      Surface Area     (ha)=        .88          .41
02094>      Dep. Storage     (mm)=       2.00         5.00
02095>      Average Slope     (%)=        .50         2.00
02096>      Length            (m)=     100.00       100.00
02097>      Mannings n             =       .013         .250
02098>
02099>      Max.eff.Inten.(mm/hr)=     142.78        10.88
02100>                 over (min)        3.00        32.00
02101>      Storage Coeff.  (min)=       2.73 (ii)   32.43 (ii)
02102>      Unit Hyd. Tpeak (min)=       3.00        32.00
02103>      Unit Hyd. peak  (cms)=        .40          .04
02104>                                                        *TOTALS*
02105>      PEAK FLOW       (cms)=        .28          .00          .283 (iii)
02106>      TIME TO PEAK    (hrs)=       1.02         1.65         1.017
02107>      RUNOFF VOLUME    (mm)=      42.36         3.80        29.247
02108>      TOTAL RAINFALL   (mm)=      44.36        44.36        44.356
02109>      RUNOFF COEFFICIENT   =        .95          .09          .659
02110>
02111>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
02112>            CN* =  39.0    Ia = Dep. Storage  (Above)
02113>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
02114>            THAN THE STORAGE COEFFICIENT.
02115>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
02116>
02117> ------------------------------------------------------------------------------
02118> 001:0089--------------------------------------------------------------------------
02119> ----------------------
02120> | ADD HYD (toSWMF    ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
02121> ----------------------                   (ha)     (cms)   (hrs)   (mm)   (cms)
02122>                      ID1 01:C202          9.66    1.063    1.00  15.66    .000
02123>                     +ID2 02:C203          1.29     .283    1.02  29.25    .000
02124>                     +ID3 03:toSWMF1        .44     .040    1.00  13.71    .000
02125>                     +ID4 05:toSWMF2        .93     .085    1.00  13.71    .000
02126>                      ============================================================
02127>                      SUM 07:toSWMF        12.32    1.468    1.00  16.87    .000
02128>
02129>    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
02130>
02131> ------------------------------------------------------------------------------
02132> 001:0090--------------------------------------------------------------------------
02133> ----------------------
02134> | ROUTE RESERVOIR    |    Requested routing time step =  1.0 min.
02135> |  IN>07:(toSWMF)    |
02136> | OUT<01:(SWMF  )    |    =========  OUTFLOW STORAGE TABLE  =========
02137> ----------------------    OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
02138>                             (cms)     (ha.m.)   |    (cms)    (ha.m.)
02139>                              .000  .0000E+00    |     .340  .2740E+00
02140>                              .011  .2900E-01    |     .697  .3140E+00
02141>                              .015  .6000E-01    |    1.206  .3540E+00
02142>                              .019  .9200E-01    |    1.880  .3960E+00
02143>                              .022  .1260E+00    |    2.734  .4380E+00
02144>                              .024  .1610E+00    |    3.779  .4820E+00
02145>                              .027  .1980E+00    |    5.029  .5260E+00
02146>                              .120  .2360E+00    |     .000  .0000E+00
02147>
02148>      ROUTING RESULTS            AREA     QPEAK     TPEAK        R.V.
02149>      ---------------------       (ha)     (cms)     (hrs)        (mm)
02150>      INFLOW >07: (toSWMF)      12.32    1.468     1.000      16.866
02151>      OUTFLOW<01: (SWMF  )      12.32     .026     3.067      16.866
02152>     OVERFLOW<02: (OverQ )        .00     .000      .000        .000
02153>
02154>                    TOTAL NUMBER OF SIMULATED OVERFLOWS  =        0
02155>                    CUMULATIVE TIME OF OVERFLOWS  (hours)=      .00
02156>                    PERCENTAGE OF TIME OVERFLOWING    (%)=      .00
02157>
02158>
02159>                    PEAK   FLOW   REDUCTION [Qout/Qin](%)=    1.777
02160>                    TIME SHIFT OF PEAK FLOW         (min)=   124.00
```

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                    MAXIMUM  STORAGE   USED       (ha.m.)=.1868E+00

--------------------------------------------------------------------------------
001:0091--------------------------------------------------------------------------
----------------------
| CALIB STANDHYD     |   Area    (ha)=   18.54
| 03:EX-2   DT= 1.00 |   Total Imp(%)=   35.00   Dir. Conn.(%)=   25.00
----------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        6.49        12.05
     Dep. Storage     (mm)=        2.00         5.00
     Average Slope     (%)=        1.00         2.00
     Length            (m)=       90.00        50.00
     Mannings n             =       .013         .250

     Max.eff.Inten.(mm/hr)=      142.78         6.09
                   over (min)        2.00        27.00
     Storage Coeff.  (min)=        2.08 (ii)   26.80 (ii)
     Unit Hyd. Tpeak (min)=        2.00        27.00
     Unit Hyd. peak  (cms)=         .54          .04
                                                          *TOTALS*
     PEAK FLOW       (cms)=        1.69          .12          1.694 (iii)
     TIME TO PEAK    (hrs)=        1.00         1.53          1.000
     RUNOFF VOLUME    (mm)=       42.36         4.17         13.715
     TOTAL RAINFALL   (mm)=       44.36        44.36         44.356
     RUNOFF COEFFICIENT   =         .95          .09           .309

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  39.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
001:0092--------------------------------------------------------------------------
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .51
| 05:C209   DT= 1.00 |   Total Imp(%)=   61.00   Dir. Conn.(%)=   55.00
----------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=         .31          .20
     Dep. Storage     (mm)=        2.00         5.00
     Average Slope     (%)=        1.00         2.00
     Length            (m)=       90.00        10.00
     Mannings n             =       .013         .250

     Max.eff.Inten.(mm/hr)=      142.78         9.65
                   over (min)        2.00        10.00
     Storage Coeff.  (min)=        2.08 (ii)    9.91 (ii)
     Unit Hyd. Tpeak (min)=        2.00        10.00
     Unit Hyd. peak  (cms)=         .54          .11
                                                          *TOTALS*
     PEAK FLOW       (cms)=         .10          .00           .103 (iii)
     TIME TO PEAK    (hrs)=        1.00         1.20          1.000
     RUNOFF VOLUME    (mm)=       42.36         4.17         25.171
     TOTAL RAINFALL   (mm)=       44.36        44.36         44.356
     RUNOFF COEFFICIENT   =         .95          .09           .567

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  39.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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001:0093--------------------------------------------------------------------------
----------------------
| COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .109  (cms)
| TotalHyd 05:C209   |   Number of inlets in system [NINLET] =      1
----------------------   Total minor system capacity         =    .109  (cms)
                         Total major system storage [TMJSTO] =      0.(cu.m.)

                  ID: NHYD       AREA     QPEAK     TPEAK     R.V.      DWF
                                  (ha)     (cms)     (hrs)     (mm)     (cms)
     TOTAL HYD.   05:C209          .51      .103     1.000   25.171     .000
     ==========================================================================
     MAJOR SYST   08:toET3         .00      .000      .000     .000     .000
     MINOR SYST   07:toWT1         .51      .103     1.000   25.171     .000

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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001:0094--------------------------------------------------------------------------
----------------------
| ADD HYD (EAST-T    ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
----------------------                     (ha)     (cms)   (hrs)   (mm)    (cms)
                       ID1 01:SWMF         12.32     .026    3.07  16.87    .000
                      +ID2 02:OverQ          .00     .000     .00    .00    .000
                      +ID3 03:EX-2         18.54    1.694    1.00  13.71    .000
                      +ID4 04:toET1          .00     .000     .00    .00    .000
                      +ID5 06:toET2          .00     .000     .00    .00    .000
                      +ID6 08:toET3          .00     .000     .00    .00    .000
                       ==========================================================
                       SUM 05:EAST-T       30.86    1.708    1.00  14.97    .000

   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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001:0095--------------------------------------------------------------------------
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .39
| 01:C210   DT= 1.00 |   Total Imp(%)=   90.00   Dir. Conn.(%)=   90.00
----------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=         .35          .04
     Dep. Storage     (mm)=        2.00         5.00
     Average Slope     (%)=        1.00         2.00
     Length            (m)=       90.00        10.00
     Mannings n             =       .013         .250

     Max.eff.Inten.(mm/hr)=      142.78         6.72
                   over (min)        2.00        11.00
     Storage Coeff.  (min)=        2.08 (ii)   11.13 (ii)
     Unit Hyd. Tpeak (min)=        2.00        11.00
     Unit Hyd. peak  (cms)=         .54          .10
                                                          *TOTALS*
     PEAK FLOW       (cms)=         .13          .00           .128 (iii)
     TIME TO PEAK    (hrs)=        1.00         1.23          1.000
     RUNOFF VOLUME    (mm)=       42.36         3.55         38.475
     TOTAL RAINFALL   (mm)=       44.36        44.36         44.356
     RUNOFF COEFFICIENT   =         .95          .08           .867

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  39.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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001:0096--------------------------------------------------------------------------
----------------------
| CALIB NASHYD       |   Area    (ha)=    7.98   Curve Number   (CN)=62.00
| 02:C206   DT= 1.00 |   Ia      (mm)=   8.000   # of Linear Res.(N)= 3.00
----------------------   U.H. Tp(hrs)=    .540

     Unit Hyd Qpeak  (cms)=     .564

     PEAK FLOW       (cms)=     .094 (i)
     TIME TO PEAK    (hrs)=    1.783
     RUNOFF VOLUME    (mm)=    6.883
     TOTAL RAINFALL   (mm)=   44.356
     RUNOFF COEFFICIENT   =     .155

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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001:0097--------------------------------------------------------------------------
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .54
| 03:C107   DT= 1.00 |   Total Imp(%)=   75.00   Dir. Conn.(%)=    1.00
----------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=         .41          .14
     Dep. Storage     (mm)=        2.00         5.00
     Average Slope     (%)=        1.00         2.00
     Length            (m)=       90.00        40.00
     Mannings n             =       .013         .250

     Max.eff.Inten.(mm/hr)=      142.78       115.78
                   over (min)        2.00         9.00
     Storage Coeff.  (min)=        2.08 (ii)    8.74 (ii)
     Unit Hyd. Tpeak (min)=        2.00         9.00
     Unit Hyd. peak  (cms)=         .54          .13
                                                          *TOTALS*
     PEAK FLOW       (cms)=         .00          .03           .028 (iii)
     TIME TO PEAK    (hrs)=        1.00         1.15          1.150
     RUNOFF VOLUME    (mm)=       42.36        12.95         13.243
     TOTAL RAINFALL   (mm)=       44.36        44.36         44.356
     RUNOFF COEFFICIENT   =         .95          .29           .299

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  39.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
001:0098--------------------------------------------------------------------------
----------------------
| ADD HYD (WEST-T    ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
----------------------                     (ha)     (cms)   (hrs)   (mm)    (cms)
                       ID1 01:C210          .39      .128    1.00  38.48    .000
                      +ID2 02:C206         7.98      .094    1.78   6.88    .000
                      +ID3 03:C107          .54      .028    1.15  13.24    .000
                      +ID4 07:toWT1         .51      .103    1.00  25.17    .000
                       ==========================================================
                       SUM 04:WEST-T       9.42      .244    1.00   9.55    .000

   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
001:0099--------------------------------------------------------------------------
----------------------
| CALIB NASHYD       |   Area    (ha)=    6.96   Curve Number   (CN)=32.00
| 01:C201   DT= 1.00 |   Ia      (mm)=   8.000   # of Linear Res.(N)= 3.00
----------------------   U.H. Tp(hrs)=    .510

     Unit Hyd Qpeak  (cms)=     .521

     PEAK FLOW       (cms)=     .028 (i)
     TIME TO PEAK    (hrs)=    1.767
     RUNOFF VOLUME    (mm)=    2.294
     TOTAL RAINFALL   (mm)=   44.356
     RUNOFF COEFFICIENT   =     .052

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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001:0100--------------------------------------------------------------------------
----------------------
| CALIB NASHYD       |   Area    (ha)=    2.04   Curve Number   (CN)=55.00
| 02:C204   DT= 1.00 |   Ia      (mm)=   8.000   # of Linear Res.(N)= 3.00
----------------------   U.H. Tp(hrs)=    .480

     Unit Hyd Qpeak  (cms)=     .162

     PEAK FLOW       (cms)=     .020 (i)
     TIME TO PEAK    (hrs)=    1.717
     RUNOFF VOLUME    (mm)=    5.413
     TOTAL RAINFALL   (mm)=   44.356
     RUNOFF COEFFICIENT   =     .122

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
001:0101--------------------------------------------------------------------------
----------------------
| ADD HYD (NORTH-W   ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
----------------------                     (ha)     (cms)   (hrs)   (mm)    (cms)
                       ID1 01:C201          6.96      .028    1.77   2.29    .000
                      +ID2 02:C204          2.04      .020    1.72   5.41    .000
                       ==========================================================
                       SUM 03:NORTH-W       9.00      .048    1.75   3.00    .000

   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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001:0102--------------------------------------------------------------------------
----------------------
| CALIB NASHYD       |   Area    (ha)=   11.96   Curve Number   (CN)=44.00
| 01:C205   DT= 1.00 |   Ia      (mm)=   8.000   # of Linear Res.(N)= 3.00
----------------------   U.H. Tp(hrs)=    .870

     Unit Hyd Qpeak  (cms)=     .525

     PEAK FLOW       (cms)=     .055 (i)
     TIME TO PEAK    (hrs)=    2.267
     RUNOFF VOLUME    (mm)=    3.675
     TOTAL RAINFALL   (mm)=   44.356
     RUNOFF COEFFICIENT   =     .083

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
001:0103--------------------------------------------------------------------------
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .61
| 02:C108   DT= 1.00 |   Total Imp(%)=   75.00   Dir. Conn.(%)=    1.00
----------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=         .46          .15
     Dep. Storage     (mm)=        2.00         5.00
     Average Slope     (%)=        1.00         2.00
     Length            (m)=       90.00        40.00
     Mannings n             =       .013         .250

     Max.eff.Inten.(mm/hr)=      142.78       115.78
                   over (min)        2.00         9.00
     Storage Coeff.  (min)=        2.08 (ii)    8.74 (ii)
     Unit Hyd. Tpeak (min)=        2.00         9.00
```

```
02431>      Unit Hyd. peak  (cms)=        .54          .13
02432>                                                          *TOTALS*
02433>      PEAK FLOW       (cms)=        .00          .03          .032 (iii)
02434>      TIME TO PEAK    (hrs)=       1.00         1.15         1.150
02435>      RUNOFF VOLUME    (mm)=      42.36        12.95        13.243
02436>      TOTAL RAINFALL   (mm)=      44.36        44.36        44.356
02437>      RUNOFF COEFFICIENT   =        .95          .29          .299
02438>
02439>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
02440>            CN* =  39.0    Ia = Dep. Storage  (Above)
02441>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
02442>            THAN THE STORAGE COEFFICIENT.
02443>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
02444>
02445> ------------------------------------------------------------------------------
02446> 001:0104------------------------------------------------------------------------
02447> ----------------------
02448> | ADD HYD (CENTER-W  ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
02449> ----------------------                    (ha)     (cms)   (hrs)   (mm)   (cms)
02450>                      ID1 01:C205          11.96     .055    2.27   3.68    .000
02451>                     +ID2 02:C108           .61     .032    1.15  13.24    .000
02452>                      ========================================================
02453>                      SUM 04:CENTER-W      12.57     .059    2.20   4.14    .000
02454>
02455>    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
02456>
02457> ------------------------------------------------------------------------------
02458> 001:0105------------------------------------------------------------------------
02459> *#*****************************************************************************
02460> *#                          ============================================
02461> *#                           PROSPOSED ULTIMATE DEVELOPMENT CONDITIONS
02462> *#                          ============================================
02463> *#*****************************************************************************
02464> ----------------------
02465> | CALIB STANDHYD     |   Area    (ha)=     .43
02466> | 01:B100   DT= 1.00 |   Total Imp(%)=   80.00   Dir. Conn.(%)=   60.00
02467> ----------------------
02468>                              IMPERVIOUS    PERVIOUS (i)
02469>      Surface Area     (ha)=        .34          .09
02470>      Dep. Storage     (mm)=       2.00         5.00
02471>      Average Slope     (%)=       1.00         2.00
02472>      Length            (m)=      90.00        25.00
02473>      Mannings n            =       .013         .250
02474>
02475>      Max.eff.Inten.(mm/hr)=     142.78        29.30
02476>                 over (min)        2.00        11.00
02477>      Storage Coeff.  (min)=       2.08 (ii)   10.78 (ii)
02478>      Unit Hyd. Tpeak (min)=       2.00        11.00
02479>      Unit Hyd. peak  (cms)=        .54          .10
02480>                                                          *TOTALS*
02481>      PEAK FLOW       (cms)=        .09          .00          .095 (iii)
02482>      TIME TO PEAK    (hrs)=       1.00         1.22         1.000
02483>      RUNOFF VOLUME    (mm)=      42.36         7.28        28.327
02484>      TOTAL RAINFALL   (mm)=      44.36        44.36        44.356
02485>      RUNOFF COEFFICIENT   =        .95          .16          .639
02486>
02487>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
02488>            CN* =  39.0    Ia = Dep. Storage  (Above)
02489>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
02490>            THAN THE STORAGE COEFFICIENT.
02491>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
02492>
02493> ------------------------------------------------------------------------------
02494> 001:0106------------------------------------------------------------------------
02495> ----------------------
02496> | COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .077  (cms)
02497> | TotalHyd 01:B100   |   Number of inlets in system [NINLET] =       1
02498> ----------------------   Total minor system capacity         =    .077  (cms)
02499>                          Total major system storage [TMJSTO] =       0.(cu.m.)
02500>
02501>                  ID: NHYD        AREA     QPEAK     TPEAK     R.V.      DWF
02502>                                   (ha)     (cms)     (hrs)     (mm)    (cms)
02503>      TOTAL HYD.   01:B100          .43      .095     1.000   28.327     .000
02504>      ========================================================================
02505>      MAJOR SYST   03:toCW1         .01      .018     1.000   28.327     .000
02506>      MINOR SYST   02:toSWMF        .42      .077      .967   28.327     .000
02507>
02508>      NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
02509>
02510> ------------------------------------------------------------------------------
02511> 001:0107------------------------------------------------------------------------
02512> ----------------------
02513> | CALIB STANDHYD     |   Area    (ha)=    4.00
02514> | 01:C303   DT= 1.00 |   Total Imp(%)=   40.00   Dir. Conn.(%)=   30.00
02515> ----------------------
02516>                              IMPERVIOUS    PERVIOUS (i)
02517>      Surface Area     (ha)=       1.60         2.40
02518>      Dep. Storage     (mm)=       2.00         5.00
02519>      Average Slope     (%)=       1.00         2.00
02520>      Length            (m)=      90.00        25.00
02521>      Mannings n            =       .013         .250
02522>
02523>      Max.eff.Inten.(mm/hr)=     142.78         7.92
02524>                 over (min)        2.00        17.00
02525>      Storage Coeff.  (min)=       2.08 (ii)   16.76 (ii)
02526>      Unit Hyd. Tpeak (min)=       2.00        17.00
02527>      Unit Hyd. peak  (cms)=        .54          .07
02528>                                                          *TOTALS*
02529>      PEAK FLOW       (cms)=        .44          .03          .440 (iii)
02530>      TIME TO PEAK    (hrs)=       1.00         1.35         1.000
02531>      RUNOFF VOLUME    (mm)=      42.36         4.22        15.660
02532>      TOTAL RAINFALL   (mm)=      44.36        44.36        44.356
02533>      RUNOFF COEFFICIENT   =        .95          .10          .353
02534>
02535>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
02536>            CN* =  39.0    Ia = Dep. Storage  (Above)
02537>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
02538>            THAN THE STORAGE COEFFICIENT.
02539>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
02540>
02541> ------------------------------------------------------------------------------
02542> 001:0108------------------------------------------------------------------------
02543> ----------------------
02544> | COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .440  (cms)
02545> | TotalHyd 01:C303   |   Number of inlets in system [NINLET] =       1
02546> ----------------------   Total minor system capacity         =    .440  (cms)
02547>                          Total major system storage [TMJSTO] =       0.(cu.m.)
02548>
02549>                  ID: NHYD        AREA     QPEAK     TPEAK     R.V.      DWF
02550>                                   (ha)     (cms)     (hrs)     (mm)    (cms)
02551>      TOTAL HYD.   01:C303         4.00      .440     1.000   15.660     .000
02552>      ========================================================================
02553>      MAJOR SYST   05:toCW2         .00      .000     1.000   15.660     .000
02554>      MINOR SYST   04:toSWMF        4.00      .440     1.000   15.660     .000
02555>
02556>      NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
02557>
02558> ------------------------------------------------------------------------------
02559> 001:0109------------------------------------------------------------------------
02560> ----------------------
02561> | CALIB STANDHYD     |   Area    (ha)=    1.14
02562> | 01:C309   DT= 1.00 |   Total Imp(%)=   62.00   Dir. Conn.(%)=   57.00
02563> ----------------------
02564>                              IMPERVIOUS    PERVIOUS (i)
02565>      Surface Area     (ha)=        .71          .43
02566>      Dep. Storage     (mm)=       2.00         5.00
02567>      Average Slope     (%)=       1.00         2.00
02568>      Length            (m)=      90.00        25.00
02569>      Mannings n            =       .013         .250
02570>
02571>      Max.eff.Inten.(mm/hr)=     142.78         7.41
02572>                 over (min)        2.00        17.00
02573>      Storage Coeff.  (min)=       2.08 (ii)   17.15 (ii)
02574>      Unit Hyd. Tpeak (min)=       2.00        17.00
02575>      Unit Hyd. peak  (cms)=        .54          .07
02576>                                                          *TOTALS*
02577>      PEAK FLOW       (cms)=        .24          .01          .237 (iii)
02578>      TIME TO PEAK    (hrs)=       1.00         1.35         1.000
02579>      RUNOFF VOLUME    (mm)=      42.36         4.08        25.897
02580>      TOTAL RAINFALL   (mm)=      44.36        44.36        44.356
02581>      RUNOFF COEFFICIENT   =        .95          .09          .584
02582>
02583>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
02584>            CN* =  39.0    Ia = Dep. Storage  (Above)
02585>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
02586>            THAN THE STORAGE COEFFICIENT.
02587>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
02588>
02589> ------------------------------------------------------------------------------
02590> 001:0110------------------------------------------------------------------------
02591> ----------------------
02592> | COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .237  (cms)
02593> | TotalHyd 01:C309   |   Number of inlets in system [NINLET] =       1
02594> ----------------------   Total minor system capacity         =    .237  (cms)
02595>                          Total major system storage [TMJSTO] =       0.(cu.m.)
02596>
02597>                  ID: NHYD        AREA     QPEAK     TPEAK     R.V.      DWF
02598>                                   (ha)     (cms)     (hrs)     (mm)    (cms)
02599>      TOTAL HYD.   01:C309         1.14      .237     1.000   25.897     .000
02600>      ========================================================================
02601>      MAJOR SYST   07:toCW3         .00      .000     1.000   25.897     .000
02602>      MINOR SYST   06:toSWMF        1.14      .237     1.000   25.897     .000
02603>
02604>      NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
02605>
02606> ------------------------------------------------------------------------------
02607> 001:0111------------------------------------------------------------------------
02608> ----------------------
02609> | CALIB STANDHYD     |   Area    (ha)=     .27
02610> | 01:C308   DT= 1.00 |   Total Imp(%)=   90.00   Dir. Conn.(%)=   90.00
02611> ----------------------
02612>                              IMPERVIOUS    PERVIOUS (i)
02613>      Surface Area     (ha)=        .24          .03
02614>      Dep. Storage     (mm)=       2.00         5.00
02615>      Average Slope     (%)=       1.00         2.00
02616>      Length            (m)=      90.00        40.00
02617>      Mannings n            =       .013         .250
02618>
02619>      Max.eff.Inten.(mm/hr)=     142.78         4.56
02620>                 over (min)        2.00        26.00
02621>      Storage Coeff.  (min)=       2.08 (ii)   26.34 (ii)
02622>      Unit Hyd. Tpeak (min)=       2.00        26.00
02623>      Unit Hyd. peak  (cms)=        .54          .04
02624>                                                          *TOTALS*
02625>      PEAK FLOW       (cms)=        .09          .00          .088 (iii)
02626>      TIME TO PEAK    (hrs)=       1.00         1.53         1.000
02627>      RUNOFF VOLUME    (mm)=      42.36         3.55        38.475
02628>      TOTAL RAINFALL   (mm)=      44.36        44.36        44.356
02629>      RUNOFF COEFFICIENT   =        .95          .08          .867
02630>
02631>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
02632>            CN* =  39.0    Ia = Dep. Storage  (Above)
02633>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
02634>            THAN THE STORAGE COEFFICIENT.
02635>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
02636>
02637> ------------------------------------------------------------------------------
02638> 001:0112------------------------------------------------------------------------
02639> ----------------------
02640> | COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .025  (cms)
02641> | TotalHyd 01:C308   |   Number of inlets in system [NINLET] =       1
02642> ----------------------   Total minor system capacity         =    .025  (cms)
02643>                          Total major system storage [TMJSTO] =       0.(cu.m.)
02644>
02645>                  ID: NHYD        AREA     QPEAK     TPEAK     R.V.      DWF
02646>                                   (ha)     (cms)     (hrs)     (mm)    (cms)
02647>      TOTAL HYD.   01:C308          .27      .088     1.000   38.475     .000
02648>      ========================================================================
02649>      MAJOR SYST   09:toCW4         .07      .063     1.000   38.475     .000
02650>      MINOR SYST   08:toSWMF        .20      .025      .883   38.475     .000
02651>
02652>      NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
02653>
02654> ------------------------------------------------------------------------------
02655> 001:0113------------------------------------------------------------------------
02656> ----------------------
02657> | CALIB NASHYD       |   Area    (ha)=    9.89   Curve Number    (CN)=34.00
02658> | 01:C304   DT= 1.00 |   Ia      (mm)=   8.000   # of Linear Res.(N)= 3.00
02659> ----------------------   U.H. Tp(hrs)=     .510
02660>
02661>      Unit Hyd Qpeak  (cms)=     .741
02662>
02663>      PEAK FLOW       (cms)=     .043 (i)
02664>      TIME TO PEAK    (hrs)=    1.767
02665>      RUNOFF VOLUME    (mm)=    2.497
02666>      TOTAL RAINFALL   (mm)=   44.356
02667>      RUNOFF COEFFICIENT   =     .056
02668>
02669>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
02670>
02671> ------------------------------------------------------------------------------
02672> 001:0114------------------------------------------------------------------------
02673> ----------------------
02674> | ADD HYD (CENTER-W  ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
02675> ----------------------                    (ha)     (cms)   (hrs)   (mm)   (cms)
02676>                      ID1 01:C304           9.89     .043    1.77   2.50    .000
02677>                     +ID2 03:toCW1           .01     .018    1.00  28.33    .000
02678>                     +ID3 05:toCW2           .00     .000    1.00  15.66    .000
02679>                     +ID4 07:toCW3           .00     .000    1.00  25.90    .000
02680>                     +ID5 09:toCW4           .07     .063    1.00  38.48    .000
02681>                      ========================================================
02682>                      SUM 10:CENTER-W       9.97     .082    1.00   2.79    .000
02683>
02684>    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
02685>
02686> ------------------------------------------------------------------------------
02687> 001:0115------------------------------------------------------------------------
02688> ----------------------
02689> | ROUTE RESERVOIR    |    Requested routing time step =  1.0 min.
02690> |  IN>10:(CENTER)    |
02691> | OUT<01:(CW-SSD)    |    =========  OUTLFOW STORAGE TABLE  =========
02692> ----------------------    OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
02693>                             (cms)    (ha.m.)   |    (cms)    (ha.m.)
02694>                             .000  .0000E+00    |     .222  .6400E+00
02695>                             .000  .3700E+00    |     .000  .0000E+00
02696>
02697>      ROUTING RESULTS            AREA     QPEAK     TPEAK       R.V.
02698>      ---------------------       (ha)     (cms)     (hrs)       (mm)
02699>      INFLOW >10: (CENTER)       9.97      .082     1.000      2.786
02700>      OUTFLOW<01: (CW-SSD)       9.97      .000      .000       .000
```

```
02701>     OVERFLOW<03: (toWT1 )        .00      .000      .000       .000
02702>
02703>                     TOTAL NUMBER OF SIMULATED OVERFLOWS  =        0
02704>                     CUMULATIVE TIME OF OVERFLOWS  (hours)=      .00
02705>                     PERCENTAGE OF TIME OVERFLOWING    (%)=      .00
02706>
02707>
02708>                     PEAK   FLOW   REDUCTION [Qout/Qin](%)=     .000
02709>                     TIME SHIFT OF PEAK FLOW          (min)=   -60.00
02710>                     MAXIMUM  STORAGE   USED       (ha.m.)=.2779E-01
02711>
02712>       *** WARNING: Outflow volume is less than inflow volume.
02713> ------------------------------------------------------------------------------
02714> 001:0116----------------------------------------------------------------------
02715> ----------------------
02716> | CALIB STANDHYD     |   Area    (ha)=     .44
02717> | 05:C207   DT= 1.00 |   Total Imp(%)=   35.00   Dir. Conn.(%)=   25.00
02718> ----------------------
02719>                             IMPERVIOUS    PERVIOUS (i)
02720>      Surface Area     (ha)=        .15         .29
02721>      Dep. Storage     (mm)=       2.00        5.00
02722>      Average Slope     (%)=       1.00        2.00
02723>      Length            (m)=      90.00       25.00
02724>      Mannings n             =      .013        .250
02725>
02726>      Max.eff.Inten.(mm/hr)=     142.78        7.73
02727>                  over (min)        2.00       17.00
02728>      Storage Coeff.  (min)=       2.08 (ii)   16.90 (ii)
02729>      Unit Hyd. Tpeak (min)=       2.00       17.00
02730>      Unit Hyd. peak  (cms)=        .54         .07
02731>                                                      *TOTALS*
02732>      PEAK FLOW       (cms)=        .04         .00       .040 (iii)
02733>      TIME TO PEAK    (hrs)=       1.00        1.35      1.000
02734>      RUNOFF VOLUME    (mm)=      42.36        4.17     13.715
02735>      TOTAL RAINFALL   (mm)=      44.36       44.36     44.356
02736>      RUNOFF COEFFICIENT   =        .95         .09       .309
02737>
02738>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
02739>            CN* =  39.0    Ia = Dep. Storage  (Above)
02740>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
02741>            THAN THE STORAGE COEFFICIENT.
02742>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
02743>
02744> ------------------------------------------------------------------------------
02745> 001:0117----------------------------------------------------------------------
02746> ----------------------
02747> | COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .064  (cms)
02748> | TotalHyd 05:C207   |   Number of inlets in system [NINLET] =      1
02749> ----------------------   Total minor system capacity          =    .064  (cms)
02750>                          Total major system storage [TMJSTO] =      0.(cu.m.)
02751>
02752>                    ID: NHYD        AREA     QPEAK     TPEAK     R.V.      DWF
02753>                                     (ha)     (cms)     (hrs)     (mm)     (cms)
02754>      TOTAL HYD.   05:C207          .44      .040     1.000   13.715     .000
02755>      ================================================================
02756>      MAJOR SYST   09:toET1         .00      .000      .000     .000     .000
02757>      MINOR SYST   07:toSWMF        .44      .040     1.000   13.715     .000
02758>
02759>      NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
02760>
02761> ------------------------------------------------------------------------------
02762> 001:0118----------------------------------------------------------------------
02763> ----------------------
02764> | CALIB STANDHYD     |   Area    (ha)=     .93
02765> | 05:C208   DT= 1.00 |   Total Imp(%)=   35.00   Dir. Conn.(%)=   25.00
02766> ----------------------
02767>                             IMPERVIOUS    PERVIOUS (i)
02768>      Surface Area     (ha)=        .33         .60
02769>      Dep. Storage     (mm)=       2.00        5.00
02770>      Average Slope     (%)=       1.00        2.00
02771>      Length            (m)=      90.00       25.00
02772>      Mannings n             =      .013        .250
02773>
02774>      Max.eff.Inten.(mm/hr)=     142.78        7.73
02775>                  over (min)        2.00       17.00
02776>      Storage Coeff.  (min)=       2.08 (ii)   16.90 (ii)
02777>      Unit Hyd. Tpeak (min)=       2.00       17.00
02778>      Unit Hyd. peak  (cms)=        .54         .07
02779>                                                      *TOTALS*
02780>      PEAK FLOW       (cms)=        .08         .01       .085 (iii)
02781>      TIME TO PEAK    (hrs)=       1.00        1.35      1.000
02782>      RUNOFF VOLUME    (mm)=      42.36        4.17     13.715
02783>      TOTAL RAINFALL   (mm)=      44.36       44.36     44.356
02784>      RUNOFF COEFFICIENT   =        .95         .09       .309
02785>
02786>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
02787>            CN* =  39.0    Ia = Dep. Storage  (Above)
02788>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
02789>            THAN THE STORAGE COEFFICIENT.
02790>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
02791>
02792> ------------------------------------------------------------------------------
02793> 001:0119----------------------------------------------------------------------
02794> ----------------------
02795> | COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .119  (cms)
02796> | TotalHyd 05:C208   |   Number of inlets in system [NINLET] =      1
02797> ----------------------   Total minor system capacity          =    .119  (cms)
02798>                          Total major system storage [TMJSTO] =      0.(cu.m.)
02799>
02800>                    ID: NHYD        AREA     QPEAK     TPEAK     R.V.      DWF
02801>                                     (ha)     (cms)     (hrs)     (mm)     (cms)
02802>      TOTAL HYD.   05:C208          .93      .085     1.000   13.715     .000
02803>      ================================================================
02804>      MAJOR SYST   03:toET2         .00      .000      .000     .000     .000
02805>      MINOR SYST   01:toSWMF        .93      .085     1.000   13.715     .000
02806>
02807>      NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
02808>
02809> ------------------------------------------------------------------------------
02810> 001:0120----------------------------------------------------------------------
02811> ------------------------
02812> | ADD HYD (toSWMF1A  ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
02813> ------------------------                   (ha)     (cms)   (hrs)   (mm)   (cms)
02814>                       ID1 01:toSWMF6        .93      .085    1.00  13.71    .000
02815>                      +ID2 02:toSWMF1        .42      .077     .97  28.33    .000
02816>                      +ID3 04:toSWMF2       4.00      .440    1.00  15.66    .000
02817>                      +ID4 06:toSWMF3       1.14      .237    1.00  25.90    .000
02818>                      +ID5 07:toSWMF5        .44      .040    1.00  13.71    .000
02819>                      +ID6 08:toSWMF4        .20      .025     .88  38.48    .000
02820>                       ============================================================
02821>                       SUM 05:toSWMF1A       7.13     .905    1.00  18.30    .000
02822>
02823>    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
02824>
02825> ------------------------------------------------------------------------------
02826> 001:0121----------------------------------------------------------------------
02827> ----------------------
02828> | CALIB STANDHYD     |   Area    (ha)=   12.10
02829> | 01:c302   DT= 1.00 |   Total Imp(%)=   41.00   Dir. Conn.(%)=   31.00
02830> ----------------------
02831>                             IMPERVIOUS    PERVIOUS (i)
02832>      Surface Area     (ha)=       4.96        7.14
02833>      Dep. Storage     (mm)=       2.00        5.00
02834>      Average Slope     (%)=       1.00        2.00
02835>      Length            (m)=      90.00       25.00
02836>      Mannings n             =      .013        .250
02837>
02838>      Max.eff.Inten.(mm/hr)=     142.78        7.96
02839>                  over (min)        2.00       17.00
02840>      Storage Coeff.  (min)=       2.08 (ii)   16.73 (ii)
02841>      Unit Hyd. Tpeak (min)=       2.00       17.00
02842>      Unit Hyd. peak  (cms)=        .54         .07
02843>                                                      *TOTALS*
02844>      PEAK FLOW       (cms)=       1.37         .09      1.376 (iii)
02845>      TIME TO PEAK    (hrs)=       1.00        1.35      1.000
02846>      RUNOFF VOLUME    (mm)=      42.36        4.23     16.049
02847>      TOTAL RAINFALL   (mm)=      44.36       44.36     44.356
02848>      RUNOFF COEFFICIENT   =        .95         .10       .362
02849>
02850>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
02851>            CN* =  39.0    Ia = Dep. Storage  (Above)
02852>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
02853>            THAN THE STORAGE COEFFICIENT.
02854>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
02855>
02856> ------------------------------------------------------------------------------
02857> 001:0122----------------------------------------------------------------------
02858> ----------------------
02859> | CALIB STANDHYD     |   Area    (ha)=    1.29
02860> | 02:C203   DT= 1.00 |   Total Imp(%)=   68.00   Dir. Conn.(%)=   66.00
02861> ----------------------
02862>                             IMPERVIOUS    PERVIOUS (i)
02863>      Surface Area     (ha)=        .88         .41
02864>      Dep. Storage     (mm)=       2.00        5.00
02865>      Average Slope     (%)=        .50        2.00
02866>      Length            (m)=     100.00      100.00
02867>      Mannings n             =      .013        .250
02868>
02869>      Max.eff.Inten.(mm/hr)=     142.78       10.88
02870>                  over (min)        3.00       32.00
02871>      Storage Coeff.  (min)=       2.73 (ii)   32.43 (ii)
02872>      Unit Hyd. Tpeak (min)=       3.00       32.00
02873>      Unit Hyd. peak  (cms)=        .40         .04
02874>                                                      *TOTALS*
02875>      PEAK FLOW       (cms)=        .28         .00       .283 (iii)
02876>      TIME TO PEAK    (hrs)=       1.02        1.65      1.017
02877>      RUNOFF VOLUME    (mm)=      42.36        3.80     29.247
02878>      TOTAL RAINFALL   (mm)=      44.36       44.36     44.356
02879>      RUNOFF COEFFICIENT   =        .95         .09       .659
02880>
02881>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
02882>            CN* =  39.0    Ia = Dep. Storage  (Above)
02883>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
02884>            THAN THE STORAGE COEFFICIENT.
02885>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
02886>
02887> ------------------------------------------------------------------------------
02888> 001:0123----------------------------------------------------------------------
02889> ------------------------
02890> | ADD HYD (toSWMF2A  ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
02891> ------------------------                   (ha)     (cms)   (hrs)   (mm)   (cms)
02892>                       ID1 01:C302          12.10    1.376    1.00  16.05    .000
02893>                      +ID2 02:C203           1.29     .283    1.02  29.25    .000
02894>                      +ID3 05:toSWMF1A       7.13     .905    1.00  18.30    .000
02895>                       ============================================================
02896>                       SUM 04:toSWMF2A      20.52    2.560    1.00  17.66    .000
02897>
02898>    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
02899>
02900> ------------------------------------------------------------------------------
02901> 001:0124----------------------------------------------------------------------
02902> ----------------------
02903> | ROUTE RESERVOIR    |    Requested routing time step =  1.0 min.
02904> |  IN>04:(toSWMF)    |
02905> |  OUT<01:(SWMF  )   |     =========  OUTLFOW STORAGE TABLE  =========
02906> ----------------------    OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
02907>                             (cms)     (ha.m.)   |    (cms)    (ha.m.)
02908>                              .000  .0000E+00    |     .340  .2740E+00
02909>                              .011  .2900E-01    |     .697  .3140E+00
02910>                              .015  .6000E-01    |    1.206  .3540E+00
02911>                              .019  .9200E-01    |    1.880  .3960E+00
02912>                              .022  .1260E+00    |    2.734  .4380E+00
02913>                              .024  .1610E+00    |    3.779  .4820E+00
02914>                              .027  .1980E+00    |    5.029  .5260E+00
02915>                              .120  .2360E+00    |     .000  .0000E+00
02916>
02917>      ROUTING RESULTS            AREA     QPEAK     TPEAK       R.V.
02918>      --------------------        (ha)     (cms)     (hrs)       (mm)
02919>      INFLOW >04: (toSWMF)      20.52     2.560     1.000     17.661
02920>      OUTFLOW<01: (SWMF  )      20.52      .239     1.800     17.661
02921>     OVERFLOW<02: (OverQ )        .00      .000      .000       .000
02922>
02923>                     TOTAL NUMBER OF SIMULATED OVERFLOWS  =        0
02924>                     CUMULATIVE TIME OF OVERFLOWS  (hours)=      .00
02925>                     PERCENTAGE OF TIME OVERFLOWING    (%)=      .00
02926>
02927>
02928>                     PEAK   FLOW   REDUCTION [Qout/Qin](%)=    9.338
02929>                     TIME SHIFT OF PEAK FLOW          (min)=   48.00
02930>                     MAXIMUM  STORAGE   USED       (ha.m.)=.2566E+00
02931>
02932> ------------------------------------------------------------------------------
02933> 001:0125----------------------------------------------------------------------
02934> ----------------------
02935> | CALIB STANDHYD     |   Area    (ha)=   18.54
02936> | 04:EX-2   DT= 1.00 |   Total Imp(%)=   35.00   Dir. Conn.(%)=   25.00
02937> ----------------------
02938>                             IMPERVIOUS    PERVIOUS (i)
02939>      Surface Area     (ha)=       6.49       12.05
02940>      Dep. Storage     (mm)=       2.00        5.00
02941>      Average Slope     (%)=       1.00        2.00
02942>      Length            (m)=      90.00       50.00
02943>      Mannings n             =      .013        .250
02944>
02945>      Max.eff.Inten.(mm/hr)=     142.78        6.09
02946>                  over (min)        2.00       27.00
02947>      Storage Coeff.  (min)=       2.08 (ii)   26.80 (ii)
02948>      Unit Hyd. Tpeak (min)=       2.00       27.00
02949>      Unit Hyd. peak  (cms)=        .54         .04
02950>                                                      *TOTALS*
02951>      PEAK FLOW       (cms)=       1.69         .12      1.694 (iii)
02952>      TIME TO PEAK    (hrs)=       1.00        1.53      1.000
02953>      RUNOFF VOLUME    (mm)=      42.36        4.17     13.715
02954>      TOTAL RAINFALL   (mm)=      44.36       44.36     44.356
02955>      RUNOFF COEFFICIENT   =        .95         .09       .309
02956>
02957>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
02958>            CN* =  39.0    Ia = Dep. Storage  (Above)
02959>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
02960>            THAN THE STORAGE COEFFICIENT.
02961>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
02962>
02963> ------------------------------------------------------------------------------
02964> 001:0126----------------------------------------------------------------------
02965> ----------------------
02966> | CALIB STANDHYD     |   Area    (ha)=    .51
02967> | 05:C209   DT= 1.00 |   Total Imp(%)=   61.00   Dir. Conn.(%)=   55.00
02968> ----------------------
02969>                             IMPERVIOUS    PERVIOUS (i)
02970>      Surface Area     (ha)=        .31         .20
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```
02971>      Dep. Storage     (mm)=       2.00         5.00
02972>      Average Slope     (%)=       1.00         2.00
02973>      Length            (m)=      90.00        10.00
02974>      Mannings n             =       .013         .250
02975>
02976>      Max.eff.Inten.(mm/hr)=     142.78         9.65
02977>                    over (min)        2.00        10.00
02978>      Storage Coeff.  (min)=       2.08 (ii)    9.91 (ii)
02979>      Unit Hyd. Tpeak (min)=       2.00        10.00
02980>      Unit Hyd. peak  (cms)=        .54          .11
02981>                                                          *TOTALS*
02982>      PEAK FLOW       (cms)=        .10          .00          .103 (iii)
02983>      TIME TO PEAK    (hrs)=       1.00         1.20         1.000
02984>      RUNOFF VOLUME    (mm)=      42.36         4.17        25.171
02985>      TOTAL RAINFALL   (mm)=      44.36        44.36        44.356
02986>      RUNOFF COEFFICIENT   =        .95          .09          .567
02987>
02988>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
02989>            CN* =  39.0    Ia = Dep. Storage  (Above)
02990>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
02991>            THAN THE STORAGE COEFFICIENT.
02992>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
02993>
02994> ------------------------------------------------------------------------------
02995> 001:0127------------------------------------------------------------------------
02996> ----------------------
02997> | COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .109  (cms)
02998> | TotalHyd 05:C209   |   Number of inlets in system [NINLET] =       1
02999> ----------------------   Total minor system capacity         =    .109  (cms)
03000>                          Total major system storage [TMJSTO] =       0.(cu.m.)
03001>
03002>                    ID: NHYD        AREA     QPEAK     TPEAK     R.V.      DWF
03003>                                     (ha)     (cms)     (hrs)     (mm)     (cms)
03004>      TOTAL HYD.   05:C209           .51      .103     1.000   25.171     .000
03005>      ================================================================
03006>      MAJOR SYST   07:toET3          .00      .000      .000     .000     .000
03007>      MINOR SYST   06:toWT2          .51      .103     1.000   25.171     .000
03008>
03009>      NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
03010>
03011> ------------------------------------------------------------------------------
03012> 001:0128------------------------------------------------------------------------
03013> ------------------------
03014> | ADD HYD (EAST-T    ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
03015> ------------------------ ID1 01:SWMF        (ha)     (cms)  (hrs)   (mm)   (cms)
03016>                         ID1 01:SWMF       20.52      .239   1.80  17.66    .000
03017>                        +ID2 02:OverQ        .00      .000    .00    .00    .000
03018>                        +ID3 03:toET2        .00      .000    .00    .00    .000
03019>                        +ID4 04:EX-2       18.54     1.694   1.00  13.71    .000
03020>                        +ID5 07:toET3        .00      .000    .00    .00    .000
03021>                        +ID6 09:toET1        .00      .000    .00    .00    .000
03022>                         ============================================================
03023>                         SUM 05:EAST-T      39.06     1.714   1.00  15.79    .000
03024>
03025>    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
03026>
03027> ------------------------------------------------------------------------------
03028> 001:0129------------------------------------------------------------------------
03029> ----------------------
03030> | CALIB STANDHYD     |   Area    (ha)=     .39
03031> | 01:C210   DT= 1.00 |   Total Imp(%)=   90.00   Dir. Conn.(%)=   90.00
03032> ----------------------
03033>                              IMPERVIOUS    PERVIOUS (i)
03034>      Surface Area     (ha)=       .35          .04
03035>      Dep. Storage     (mm)=      2.00         5.00
03036>      Average Slope     (%)=      1.00         2.00
03037>      Length            (m)=     90.00        10.00
03038>      Mannings n             =      .013         .250
03039>
03040>      Max.eff.Inten.(mm/hr)=     142.78         6.72
03041>                    over (min)        2.00        11.00
03042>      Storage Coeff.  (min)=       2.08 (ii)   11.13 (ii)
03043>      Unit Hyd. Tpeak (min)=       2.00        11.00
03044>      Unit Hyd. peak  (cms)=        .54          .10
03045>                                                          *TOTALS*
03046>      PEAK FLOW       (cms)=        .13          .00          .128 (iii)
03047>      TIME TO PEAK    (hrs)=       1.00         1.23         1.000
03048>      RUNOFF VOLUME    (mm)=      42.36         3.55        38.475
03049>      TOTAL RAINFALL   (mm)=      44.36        44.36        44.356
03050>      RUNOFF COEFFICIENT   =        .95          .08          .867
03051>
03052>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
03053>            CN* =  39.0    Ia = Dep. Storage  (Above)
03054>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
03055>            THAN THE STORAGE COEFFICIENT.
03056>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
03057>
03058> ------------------------------------------------------------------------------
03059> 001:0130------------------------------------------------------------------------
03060> ----------------------
03061> | CALIB STANDHYD     |   Area    (ha)=     .27
03062> | 02:C307   DT= 1.00 |   Total Imp(%)=   90.00   Dir. Conn.(%)=    1.00
03063> ----------------------
03064>                              IMPERVIOUS    PERVIOUS (i)
03065>      Surface Area     (ha)=       .24          .03
03066>      Dep. Storage     (mm)=      2.00         5.00
03067>      Average Slope     (%)=      1.00         2.00
03068>      Length            (m)=     90.00        10.00
03069>      Mannings n             =      .013         .250
03070>
03071>      Max.eff.Inten.(mm/hr)=     142.78       746.45
03072>                    over (min)        2.00         3.00
03073>      Storage Coeff.  (min)=       2.08 (ii)    3.45 (ii)
03074>      Unit Hyd. Tpeak (min)=       2.00         3.00
03075>      Unit Hyd. peak  (cms)=        .54          .34
03076>                                                          *TOTALS*
03077>      PEAK FLOW       (cms)=        .00          .04          .041 (iii)
03078>      TIME TO PEAK    (hrs)=       1.00         1.03         1.033
03079>      RUNOFF VOLUME    (mm)=      42.36        22.90        23.092
03080>      TOTAL RAINFALL   (mm)=      44.36        44.36        44.356
03081>      RUNOFF COEFFICIENT   =        .95          .52          .521
03082>
03083>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
03084>            CN* =  39.0    Ia = Dep. Storage  (Above)
03085>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
03086>            THAN THE STORAGE COEFFICIENT.
03087>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
03088>
03089> ------------------------------------------------------------------------------
03090> 001:0131------------------------------------------------------------------------
03091> ----------------------
03092> | CALIB STANDHYD     |   Area    (ha)=    2.61
03093> | 03:C305   DT= 1.00 |   Total Imp(%)=   76.00   Dir. Conn.(%)=   57.00
03094> ----------------------
03095>                              IMPERVIOUS    PERVIOUS (i)
03096>      Surface Area     (ha)=      1.98          .63
03097>      Dep. Storage     (mm)=      2.00         5.00
03098>      Average Slope     (%)=      1.00         2.00
03099>      Length            (m)=     90.00        25.00
03100>      Mannings n             =      .013         .250
03101>
03102>      Max.eff.Inten.(mm/hr)=     142.78        22.56
03103>                    over (min)        2.00        12.00
03104>      Storage Coeff.  (min)=       2.08 (ii)   11.74 (ii)
03105>      Unit Hyd. Tpeak (min)=       2.00        12.00
03106>      Unit Hyd. peak  (cms)=        .54          .10
03107>                                                          *TOTALS*
03108>      PEAK FLOW       (cms)=        .54          .02          .547 (iii)
03109>      TIME TO PEAK    (hrs)=       1.00         1.23         1.000
03110>      RUNOFF VOLUME    (mm)=      42.36         6.56        26.964
03111>      TOTAL RAINFALL   (mm)=      44.36        44.36        44.356
03112>      RUNOFF COEFFICIENT   =        .95          .15          .608
03113>
03114>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
03115>            CN* =  39.0    Ia = Dep. Storage  (Above)
03116>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
03117>            THAN THE STORAGE COEFFICIENT.
03118>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
03119>
03120> ------------------------------------------------------------------------------
03121> 001:0132------------------------------------------------------------------------
03122> ----------------------
03123> | COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .030  (cms)
03124> | TotalHyd 03:C305   |   Number of inlets in system [NINLET] =       1
03125> ----------------------   Total minor system capacity         =    .030  (cms)
03126>                          Total major system storage [TMJSTO] =     730.(cu.m.)
03127>
03128>                    ID: NHYD        AREA     QPEAK     TPEAK     R.V.      DWF
03129>                                     (ha)     (cms)     (hrs)     (mm)     (cms)
03130>      TOTAL HYD.   03:C305           2.61      .547     1.000   26.964     .000
03131>      ================================================================
03132>      MAJOR SYST   07:toWT3          .00      .000      .000     .000     .000
03133>      MINOR SYST   04:toPD           2.61      .030      .600   27.007     .000
03134>
03135>      NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
03136>
03137>      Maximum MAJOR SYSTEM storage used =     461.(cu.m.)
03138>
03139> ------------------------------------------------------------------------------
03140> 001:0133------------------------------------------------------------------------
03141> ----------------------
03142> | CALIB NASHYD       |   Area    (ha)=    1.77   Curve Number   (CN)=36.00
03143> | 03:C306   DT= 1.00 |   Ia      (mm)=   8.000   # of Linear Res.(N)= 3.00
03144> ----------------------   U.H. Tp(hrs)=    .580
03145>
03146>      Unit Hyd Qpeak  (cms)=     .117
03147>
03148>      PEAK FLOW       (cms)=     .008 (i)
03149>      TIME TO PEAK    (hrs)=    1.867
03150>      RUNOFF VOLUME    (mm)=    2.709
03151>      TOTAL RAINFALL   (mm)=   44.356
03152>      RUNOFF COEFFICIENT   =     .061
03153>
03154>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
03155>
03156> ------------------------------------------------------------------------------
03157> 001:0134------------------------------------------------------------------------
03158> ------------------------
03159> | ADD HYD (WEST-T    ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
03160> ------------------------ ID1 01:C210        (ha)     (cms)  (hrs)   (mm)   (cms)
03161>                         ID1 01:C210         .39      .128   1.00  38.48    .000
03162>                        +ID2 02:C307         .27      .041   1.03  23.09    .000
03163>                        +ID3 03:C306        1.77      .008   1.87   2.71    .000
03164>                        +ID4 04:toPD        2.61      .030    .60  27.01    .000
03165>                        +ID5 06:toWT2        .51      .103   1.00  25.17    .000
03166>                        +ID6 07:toWT3        .00      .000    .00    .00    .000
03167>                         ============================================================
03168>                         SUM 08:WEST-T       5.55      .299   1.00  19.70    .000
03169>
03170>    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
03171>
03172> ------------------------------------------------------------------------------
03173> 001:0135------------------------------------------------------------------------
03174> ----------------------
03175> | CALIB NASHYD       |   Area    (ha)=    7.88   Curve Number   (CN)=32.00
03176> | 01:C301   DT= 1.00 |   Ia      (mm)=   8.000   # of Linear Res.(N)= 3.00
03177> ----------------------   U.H. Tp(hrs)=    .510
03178>
03179>      Unit Hyd Qpeak  (cms)=     .590
03180>
03181>      PEAK FLOW       (cms)=     .031 (i)
03182>      TIME TO PEAK    (hrs)=    1.767
03183>      RUNOFF VOLUME    (mm)=    2.294
03184>      TOTAL RAINFALL   (mm)=   44.356
03185>      RUNOFF COEFFICIENT   =     .052
03186>
03187>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
03188>
03189> ------------------------------------------------------------------------------
03190> 001:0136------------------------------------------------------------------------
03191> *#############################################################################
03192> *#
03193> *#                                        10-year
03194> *#                                       =========
03195> *#
03196> *#############################################################################
03197> ----------------------
03198> | CHICAGO STORM      |   IDF curve parameters: A=1425.011
03199> | Ptotal= 51.88 mm   |                         B=   7.382
03200> ----------------------                         C=    .843
03201>                          used in:   INTENSITY =  A / (t + B)^C
03202>
03203>                          Duration of storm   =  3.00 hrs
03204>                          Storm time step     =  5.00 min
03205>                          Time to peak ratio  =   .33
03206>
03207>               TIME    RAIN |   TIME    RAIN |   TIME    RAIN |   TIME    RAIN
03208>                hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr
03209>                .08   3.605 |    .83  24.391 |   1.58  11.585 |   2.33   4.903
03210>                .17   3.969 |    .92  59.464 |   1.67  10.053 |   2.42   4.613
03211>                .25   4.420 |   1.00 170.842 |   1.75   8.876 |   2.50   4.357
03212>                .33   4.994 |   1.08  77.235 |   1.83   7.947 |   2.58   4.129
03213>                .42   5.748 |   1.17  42.478 |   1.92   7.195 |   2.67   3.925
03214>                .50   6.783 |   1.25  28.394 |   2.00   6.575 |   2.75   3.741
03215>                .58   8.287 |   1.33  21.032 |   2.08   6.055 |   2.83   3.574
03216>                .67  10.659 |   1.42  16.593 |   2.17   5.613 |   2.92   3.422
03217>                .75  14.907 |   1.50  13.657 |   2.25   5.233 |   3.00   3.283
03218>
03219> ------------------------------------------------------------------------------
03220> 001:0137------------------------------------------------------------------------
03221> *#############################################################################
03222> *#                                    ====================
03223> *#                                     EXISTING CONDITIONS
03224> *#                                    ====================
03225> *#############################################################################
03226> ----------------------
03227> | CALIB STANDHYD     |   Area    (ha)=   18.54
03228> | 01:EX-1   DT= 1.00 |   Total Imp(%)=   35.00   Dir. Conn.(%)=   25.00
03229> ----------------------
03230>                              IMPERVIOUS    PERVIOUS (i)
03231>      Surface Area     (ha)=       6.49        12.05
03232>      Dep. Storage     (mm)=      2.00         5.00
03233>      Average Slope     (%)=      1.00         2.00
03234>      Length            (m)=     90.00        50.00
03235>      Mannings n             =      .013         .250
03236>
03237>      Max.eff.Inten.(mm/hr)=     170.84         9.49
03238>                    over (min)        2.00        23.00
03239>      Storage Coeff.  (min)=       1.94 (ii)   22.64 (ii)
03240>      Unit Hyd. Tpeak (min)=       2.00        23.00
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03241>      Unit Hyd. peak  (cms)=        .57          .05
03242>                                                          *TOTALS*
03243>      PEAK FLOW       (cms)=       2.04          .18          2.058 (iii)
03244>      TIME TO PEAK    (hrs)=       1.00         1.45          1.000
03245>      RUNOFF VOLUME    (mm)=      49.88         5.77         16.796
03246>      TOTAL RAINFALL   (mm)=      51.88        51.88         51.878
03247>      RUNOFF COEFFICIENT   =         .96          .11           .324
03248>
03249>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
03250>            CN* =  39.0    Ia = Dep. Storage  (Above)
03251>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
03252>            THAN THE STORAGE COEFFICIENT.
03253>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
03254>
03255> ------------------------------------------------------------------------------
03256> 001:0138--------------------------------------------------------------------------
03257> ----------------------
03258> | CALIB NASHYD       |   Area    (ha)=    9.06   Curve Number   (CN)=40.00
03259> | 02:C101   DT= 1.00 |   Ia      (mm)=   8.000   # of Linear Res.(N)= 3.00
03260> ----------------------   U.H. Tp(hrs)=    .510
03261>
03262>      Unit Hyd Qpeak  (cms)=     .679
03263>
03264>      PEAK FLOW       (cms)=     .074 (i)
03265>      TIME TO PEAK    (hrs)=    1.733
03266>      RUNOFF VOLUME    (mm)=    4.531
03267>      TOTAL RAINFALL   (mm)=   51.878
03268>      RUNOFF COEFFICIENT   =     .087
03269>
03270>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
03271>
03272> ------------------------------------------------------------------------------
03273> 001:0139--------------------------------------------------------------------------
03274> ----------------------
03275> | CALIB NASHYD       |   Area    (ha)=   13.09   Curve Number   (CN)=47.00
03276> | 03:C102   DT= 1.00 |   Ia      (mm)=   8.000   # of Linear Res.(N)= 3.00
03277> ----------------------   U.H. Tp(hrs)=    .850
03278>
03279>      Unit Hyd Qpeak  (cms)=     .588
03280>
03281>      PEAK FLOW       (cms)=     .098 (i)
03282>      TIME TO PEAK    (hrs)=    2.200
03283>      RUNOFF VOLUME    (mm)=    5.829
03284>      TOTAL RAINFALL   (mm)=   51.878
03285>      RUNOFF COEFFICIENT   =     .112
03286>
03287>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
03288>
03289> ------------------------------------------------------------------------------
03290> 001:0140--------------------------------------------------------------------------
03291> ----------------------
03292> | CALIB STANDHYD     |   Area    (ha)=     .61
03293> | 04:C108   DT= 1.00 |   Total Imp(%)=   75.00   Dir. Conn.(%)=    1.00
03294> ----------------------
03295>                              IMPERVIOUS    PERVIOUS (i)
03296>      Surface Area     (ha)=        .46          .15
03297>      Dep. Storage     (mm)=       2.00         5.00
03298>      Average Slope     (%)=       1.00         2.00
03299>      Length            (m)=      90.00        40.00
03300>      Mannings n            =       .013         .250
03301>
03302>      Max.eff.Inten.(mm/hr)=     170.84       162.07
03303>                  over (min)        2.00         8.00
03304>      Storage Coeff.  (min)=       1.94 (ii)    7.75 (ii)
03305>      Unit Hyd. Tpeak (min)=       2.00         8.00
03306>      Unit Hyd. peak  (cms)=        .57          .14
03307>                                                          *TOTALS*
03308>      PEAK FLOW       (cms)=        .00          .05           .046 (iii)
03309>      TIME TO PEAK    (hrs)=       1.00         1.12          1.117
03310>      RUNOFF VOLUME    (mm)=      49.88        16.97         17.302
03311>      TOTAL RAINFALL   (mm)=      51.88        51.88         51.878
03312>      RUNOFF COEFFICIENT   =         .96          .33           .334
03313>
03314>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
03315>            CN* =  39.0    Ia = Dep. Storage  (Above)
03316>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
03317>            THAN THE STORAGE COEFFICIENT.
03318>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
03319>
03320> ------------------------------------------------------------------------------
03321> 001:0141--------------------------------------------------------------------------
03322> ----------------------
03323> | ADD HYD (CENTER-W  ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
03324> ----------------------                    (ha)     (cms)   (hrs)   (mm)   (cms)
03325>                       ID1 03:C102          13.09     .098    2.20   5.83    .000
03326>                      +ID2 04:C108            .61     .046    1.12  17.30    .000
03327>                       ============================================================
03328>                       SUM 05:CENTER-W      13.70     .104    2.17   6.34    .000
03329>
03330>    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
03331>
03332> ------------------------------------------------------------------------------
03333> 001:0142--------------------------------------------------------------------------
03334> ----------------------
03335> | CALIB NASHYD       |   Area    (ha)=    9.17   Curve Number   (CN)=64.00
03336> | 03:C104   DT= 1.00 |   Ia      (mm)=   8.000   # of Linear Res.(N)= 3.00
03337> ----------------------   U.H. Tp(hrs)=    .590
03338>
03339>      Unit Hyd Qpeak  (cms)=     .594
03340>
03341>      PEAK FLOW       (cms)=     .158 (i)
03342>      TIME TO PEAK    (hrs)=    1.833
03343>      RUNOFF VOLUME    (mm)=   10.309
03344>      TOTAL RAINFALL   (mm)=   51.878
03345>      RUNOFF COEFFICIENT   =     .199
03346>
03347>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
03348>
03349> ------------------------------------------------------------------------------
03350> 001:0143--------------------------------------------------------------------------
03351> ----------------------
03352> | CALIB STANDHYD     |   Area    (ha)=    1.63
03353> | 04:C105   DT= 1.00 |   Total Imp(%)=   56.00   Dir. Conn.(%)=   50.00
03354> ----------------------
03355>                              IMPERVIOUS    PERVIOUS (i)
03356>      Surface Area     (ha)=        .91          .72
03357>      Dep. Storage     (mm)=       2.00         5.00
03358>      Average Slope     (%)=       1.00         2.00
03359>      Length            (m)=      90.00        40.00
03360>      Mannings n            =       .013         .250
03361>
03362>      Max.eff.Inten.(mm/hr)=     170.84         9.94
03363>                  over (min)        2.00        20.00
03364>      Storage Coeff.  (min)=       1.94 (ii)   19.70 (ii)
03365>      Unit Hyd. Tpeak (min)=       2.00        20.00
03366>      Unit Hyd. peak  (cms)=        .57          .06
03367>                                                          *TOTALS*
03368>      PEAK FLOW       (cms)=        .36          .01           .361 (iii)
03369>      TIME TO PEAK    (hrs)=       1.00         1.40          1.000
03370>      RUNOFF VOLUME    (mm)=      49.88         5.68         27.778
03371>      TOTAL RAINFALL   (mm)=      51.88        51.88         51.878
03372>      RUNOFF COEFFICIENT   =         .96          .11           .535
03373>
03374>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
03375>            CN* =  39.0    Ia = Dep. Storage  (Above)
03376>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
03377>            THAN THE STORAGE COEFFICIENT.
03378>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
03379>
03380> ------------------------------------------------------------------------------
03381> 001:0144--------------------------------------------------------------------------
03382> ----------------------
03383> | ADD HYD (EAST-T    ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
03384> ----------------------                    (ha)     (cms)   (hrs)   (mm)   (cms)
03385>                       ID1 01:EX-1          18.54    2.058    1.00  16.80    .000
03386>                      +ID2 03:C104           9.17     .158    1.83  10.31    .000
03387>                      +ID3 04:C105           1.63     .361    1.00  27.78    .000
03388>                       ============================================================
03389>                       SUM 06:EAST-T        29.34    2.421    1.00  15.38    .000
03390>
03391>    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
03392>
03393> ------------------------------------------------------------------------------
03394> 001:0145--------------------------------------------------------------------------
03395> ----------------------
03396> | CALIB NASHYD       |   Area    (ha)=    8.73   Curve Number   (CN)=62.00
03397> | 01:C103   DT= 1.00 |   Ia      (mm)=   8.000   # of Linear Res.(N)= 3.00
03398> ----------------------   U.H. Tp(hrs)=    .540
03399>
03400>      Unit Hyd Qpeak  (cms)=     .617
03401>
03402>      PEAK FLOW       (cms)=     .149 (i)
03403>      TIME TO PEAK    (hrs)=    1.767
03404>      RUNOFF VOLUME    (mm)=    9.648
03405>      TOTAL RAINFALL   (mm)=   51.878
03406>      RUNOFF COEFFICIENT   =     .186
03407>
03408>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
03409>
03410> ------------------------------------------------------------------------------
03411> 001:0146--------------------------------------------------------------------------
03412> ----------------------
03413> | CALIB STANDHYD     |   Area    (ha)=     .47
03414> | 03:C106   DT= 1.00 |   Total Imp(%)=   75.00   Dir. Conn.(%)=    1.00
03415> ----------------------
03416>                              IMPERVIOUS    PERVIOUS (i)
03417>      Surface Area     (ha)=        .35          .12
03418>      Dep. Storage     (mm)=       2.00         5.00
03419>      Average Slope     (%)=       1.00         2.00
03420>      Length            (m)=      90.00        40.00
03421>      Mannings n            =       .013         .250
03422>
03423>      Max.eff.Inten.(mm/hr)=     170.84       162.07
03424>                  over (min)        2.00         8.00
03425>      Storage Coeff.  (min)=       1.94 (ii)    7.75 (ii)
03426>      Unit Hyd. Tpeak (min)=       2.00         8.00
03427>      Unit Hyd. peak  (cms)=        .57          .14
03428>                                                          *TOTALS*
03429>      PEAK FLOW       (cms)=        .00          .03           .036 (iii)
03430>      TIME TO PEAK    (hrs)=       1.00         1.12          1.117
03431>      RUNOFF VOLUME    (mm)=      49.88        16.97         17.302
03432>      TOTAL RAINFALL   (mm)=      51.88        51.88         51.878
03433>      RUNOFF COEFFICIENT   =         .96          .33           .334
03434>
03435>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
03436>            CN* =  39.0    Ia = Dep. Storage  (Above)
03437>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
03438>            THAN THE STORAGE COEFFICIENT.
03439>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
03440>
03441> ------------------------------------------------------------------------------
03442> 001:0147--------------------------------------------------------------------------
03443> ----------------------
03444> | CALIB STANDHYD     |   Area    (ha)=     .54
03445> | 04:C107   DT= 1.00 |   Total Imp(%)=   75.00   Dir. Conn.(%)=    1.00
03446> ----------------------
03447>                              IMPERVIOUS    PERVIOUS (i)
03448>      Surface Area     (ha)=        .41          .14
03449>      Dep. Storage     (mm)=       2.00         5.00
03450>      Average Slope     (%)=       1.00         2.00
03451>      Length            (m)=      90.00        40.00
03452>      Mannings n            =       .013         .250
03453>
03454>      Max.eff.Inten.(mm/hr)=     170.84       162.07
03455>                  over (min)        2.00         8.00
03456>      Storage Coeff.  (min)=       1.94 (ii)    7.75 (ii)
03457>      Unit Hyd. Tpeak (min)=       2.00         8.00
03458>      Unit Hyd. peak  (cms)=        .57          .14
03459>                                                          *TOTALS*
03460>      PEAK FLOW       (cms)=        .00          .04           .041 (iii)
03461>      TIME TO PEAK    (hrs)=       1.00         1.12          1.117
03462>      RUNOFF VOLUME    (mm)=      49.88        16.97         17.302
03463>      TOTAL RAINFALL   (mm)=      51.88        51.88         51.878
03464>      RUNOFF COEFFICIENT   =         .96          .33           .334
03465>
03466>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
03467>            CN* =  39.0    Ia = Dep. Storage  (Above)
03468>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
03469>            THAN THE STORAGE COEFFICIENT.
03470>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
03471>
03472> ------------------------------------------------------------------------------
03473> 001:0148--------------------------------------------------------------------------
03474> ----------------------
03475> | ADD HYD (WEST-T    ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
03476> ----------------------                    (ha)     (cms)   (hrs)   (mm)   (cms)
03477>                       ID1 01:C103           8.73     .149    1.77   9.65    .000
03478>                      +ID2 03:C106            .47     .036    1.12  17.30    .000
03479>                      +ID3 04:C107            .54     .041    1.12  17.30    .000
03480>                       ============================================================
03481>                       SUM 07:WEST-T         9.74     .167    1.70  10.44    .000
03482>
03483>    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
03484>
03485> ------------------------------------------------------------------------------
03486> 001:0149--------------------------------------------------------------------------
03487> ----------------------
03488> | CALIB STANDHYD     |   Area    (ha)=     .17
03489> | 01:C109   DT= 1.00 |   Total Imp(%)=   75.00   Dir. Conn.(%)=    1.00
03490> ----------------------
03491>                              IMPERVIOUS    PERVIOUS (i)
03492>      Surface Area     (ha)=        .13          .04
03493>      Dep. Storage     (mm)=       2.00         5.00
03494>      Average Slope     (%)=       1.00         2.00
03495>      Length            (m)=      90.00        40.00
03496>      Mannings n            =       .013         .250
03497>
03498>      Max.eff.Inten.(mm/hr)=     170.84       162.07
03499>                  over (min)        2.00         8.00
03500>      Storage Coeff.  (min)=       1.94 (ii)    7.75 (ii)
03501>      Unit Hyd. Tpeak (min)=       2.00         8.00
03502>      Unit Hyd. peak  (cms)=        .57          .14
03503>                                                          *TOTALS*
03504>      PEAK FLOW       (cms)=        .00          .01           .013 (iii)
03505>      TIME TO PEAK    (hrs)=       1.00         1.12          1.117
03506>      RUNOFF VOLUME    (mm)=      49.88        16.97         17.302
03507>      TOTAL RAINFALL   (mm)=      51.88        51.88         51.878
03508>      RUNOFF COEFFICIENT   =         .96          .33           .334
03509>
03510>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
```

```
03511>           CN* =  39.0    Ia = Dep. Storage  (Above)
03512>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
03513>            THAN THE STORAGE COEFFICIENT.
03514>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
03515>
03516> ---------------------------------------------------------------------------
03517> 001:0150-----------------------------------------------------------------
03518> *#***************************************************************************
03519> *#                          ===========================================
03520> *#                           PROSPOSED INTERIM DEVELOPMENT CONDITIONS
03521> *#                          ===========================================
03522> *#***************************************************************************
03523> ----------------------
03524> | CALIB STANDHYD     |   Area    (ha)=    9.66
03525> | 01:C202   DT= 1.00 |   Total Imp(%)=   40.00   Dir. Conn.(%)=   30.00
03526> ----------------------
03527>                              IMPERVIOUS    PERVIOUS (i)
03528>      Surface Area     (ha)=       3.86         5.80
03529>      Dep. Storage     (mm)=       2.00         5.00
03530>      Average Slope     (%)=       1.00         2.00
03531>      Length            (m)=      90.00        25.00
03532>      Mannings n             =      .013         .250
03533>
03534>      Max.eff.Inten.(mm/hr)=     170.84        12.41
03535>                 over (min)        2.00        14.00
03536>      Storage Coeff.  (min)=       1.94 (ii)   14.20 (ii)
03537>      Unit Hyd. Tpeak (min)=       2.00        14.00
03538>      Unit Hyd. peak  (cms)=        .57          .08
03539>                                                          *TOTALS*
03540>      PEAK FLOW       (cms)=       1.28          .12         1.296 (iii)
03541>      TIME TO PEAK    (hrs)=       1.00         1.28         1.000
03542>      RUNOFF VOLUME    (mm)=      49.88         5.84        19.049
03543>      TOTAL RAINFALL   (mm)=      51.88        51.88        51.878
03544>      RUNOFF COEFFICIENT   =         .96          .11          .367
03545>
03546>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
03547>            CN* =  39.0    Ia = Dep. Storage  (Above)
03548>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
03549>            THAN THE STORAGE COEFFICIENT.
03550>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
03551>
03552> ---------------------------------------------------------------------------
03553> 001:0151-----------------------------------------------------------------
03554> ----------------------
03555> | CALIB STANDHYD     |   Area    (ha)=     .44
03556> | 02:C207   DT= 1.00 |   Total Imp(%)=   35.00   Dir. Conn.(%)=   25.00
03557> ----------------------
03558>                              IMPERVIOUS    PERVIOUS (i)
03559>      Surface Area     (ha)=        .15          .29
03560>      Dep. Storage     (mm)=       2.00         5.00
03561>      Average Slope     (%)=       1.00         2.00
03562>      Length            (m)=      90.00        25.00
03563>      Mannings n             =      .013         .250
03564>
03565>      Max.eff.Inten.(mm/hr)=     170.84        12.13
03566>                 over (min)        2.00        14.00
03567>      Storage Coeff.  (min)=       1.94 (ii)   14.32 (ii)
03568>      Unit Hyd. Tpeak (min)=       2.00        14.00
03569>      Unit Hyd. peak  (cms)=        .57          .08
03570>                                                          *TOTALS*
03571>      PEAK FLOW       (cms)=        .05          .01          .049 (iii)
03572>      TIME TO PEAK    (hrs)=       1.00         1.28         1.000
03573>      RUNOFF VOLUME    (mm)=      49.88         5.77        16.796
03574>      TOTAL RAINFALL   (mm)=      51.88        51.88        51.878
03575>      RUNOFF COEFFICIENT   =         .96          .11          .324
03576>
03577>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
03578>            CN* =  39.0    Ia = Dep. Storage  (Above)
03579>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
03580>            THAN THE STORAGE COEFFICIENT.
03581>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
03582>
03583> ---------------------------------------------------------------------------
03584> 001:0152-----------------------------------------------------------------
03585> ----------------------
03586> | COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .064  (cms)
03587> | TotalHyd 02:C207   |   Number of inlets in system [NINLET] =       1
03588> ----------------------   Total minor system capacity           =    .064  (cms)
03589>                          Total major system storage [TMJSTO] =       0.(cu.m.)
03590>
03591>                ID: NHYD        AREA     QPEAK     TPEAK     R.V.       DWF
03592>                                 (ha)     (cms)     (hrs)     (mm)     (cms)
03593>      TOTAL HYD.   02:C207          .44      .049     1.000   16.796     .000
03594>      ======================================================================
03595>      MAJOR SYST   04:toET1         .00      .000      .000     .000     .000
03596>      MINOR SYST   03:toSWMF        .44      .049     1.000   16.796     .000
03597>
03598>      NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
03599>
03600> ---------------------------------------------------------------------------
03601> 001:0153-----------------------------------------------------------------
03602> ----------------------
03603> | CALIB STANDHYD     |   Area    (ha)=     .93
03604> | 02:C208   DT= 1.00 |   Total Imp(%)=   35.00   Dir. Conn.(%)=   25.00
03605> ----------------------
03606>                              IMPERVIOUS    PERVIOUS (i)
03607>      Surface Area     (ha)=        .33          .60
03608>      Dep. Storage     (mm)=       2.00         5.00
03609>      Average Slope     (%)=       1.00         2.00
03610>      Length            (m)=      90.00        25.00
03611>      Mannings n             =      .013         .250
03612>
03613>      Max.eff.Inten.(mm/hr)=     170.84        12.13
03614>                 over (min)        2.00        14.00
03615>      Storage Coeff.  (min)=       1.94 (ii)   14.32 (ii)
03616>      Unit Hyd. Tpeak (min)=       2.00        14.00
03617>      Unit Hyd. peak  (cms)=        .57          .08
03618>                                                          *TOTALS*
03619>      PEAK FLOW       (cms)=        .10          .01          .104 (iii)
03620>      TIME TO PEAK    (hrs)=       1.00         1.28         1.000
03621>      RUNOFF VOLUME    (mm)=      49.88         5.77        16.796
03622>      TOTAL RAINFALL   (mm)=      51.88        51.88        51.878
03623>      RUNOFF COEFFICIENT   =         .96          .11          .324
03624>
03625>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
03626>            CN* =  39.0    Ia = Dep. Storage  (Above)
03627>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
03628>            THAN THE STORAGE COEFFICIENT.
03629>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
03630>
03631> ---------------------------------------------------------------------------
03632> 001:0154-----------------------------------------------------------------
03633> ----------------------
03634> | COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .119  (cms)
03635> | TotalHyd 02:C208   |   Number of inlets in system [NINLET] =       1
03636> ----------------------   Total minor system capacity           =    .119  (cms)
03637>                          Total major system storage [TMJSTO] =       0.(cu.m.)
03638>
03639>                ID: NHYD        AREA     QPEAK     TPEAK     R.V.       DWF
03640>                                 (ha)     (cms)     (hrs)     (mm)     (cms)
03641>      TOTAL HYD.   02:C208          .93      .104     1.000   16.796     .000
03642>      ======================================================================
03643>      MAJOR SYST   06:toET2         .00      .000      .000     .000     .000
03644>      MINOR SYST   05:toSWMF        .93      .104     1.000   16.796     .000
03645>
03646>      NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
03647>
03648> ---------------------------------------------------------------------------
03649> 001:0155-----------------------------------------------------------------
03650> ----------------------
03651> | CALIB STANDHYD     |   Area    (ha)=    1.29
03652> | 02:C203   DT= 1.00 |   Total Imp(%)=   68.00   Dir. Conn.(%)=   66.00
03653> ----------------------
03654>                              IMPERVIOUS    PERVIOUS (i)
03655>      Surface Area     (ha)=        .88          .41
03656>      Dep. Storage     (mm)=       2.00         5.00
03657>      Average Slope     (%)=        .50         2.00
03658>      Length            (m)=     100.00       100.00
03659>      Mannings n             =      .013         .250
03660>
03661>      Max.eff.Inten.(mm/hr)=     170.84         5.66
03662>                 over (min)        3.00        41.00
03663>      Storage Coeff.  (min)=       2.54 (ii)   41.12 (ii)
03664>      Unit Hyd. Tpeak (min)=       3.00        41.00
03665>      Unit Hyd. peak  (cms)=        .42          .03
03666>                                                          *TOTALS*
03667>      PEAK FLOW       (cms)=        .34          .00          .343 (iii)
03668>      TIME TO PEAK    (hrs)=       1.02         1.80         1.017
03669>      RUNOFF VOLUME    (mm)=      49.88         5.28        34.716
03670>      TOTAL RAINFALL   (mm)=      51.88        51.88        51.878
03671>      RUNOFF COEFFICIENT   =         .96          .10          .669
03672>
03673>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
03674>            CN* =  39.0    Ia = Dep. Storage  (Above)
03675>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
03676>            THAN THE STORAGE COEFFICIENT.
03677>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
03678>
03679> ---------------------------------------------------------------------------
03680> 001:0156-----------------------------------------------------------------
03681> ----------------------
03682> | ADD HYD (toSWMF    ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
03683> ----------------------                    (ha)     (cms)   (hrs)   (mm)   (cms)
03684>                         ID1 01:C202        9.66    1.296   1.00  19.05    .000
03685>                        +ID2 02:C203        1.29     .343   1.02  34.72    .000
03686>                        +ID3 03:toSWMF1      .44     .049   1.00  16.80    .000
03687>                        +ID4 05:toSWMF2      .93     .104   1.00  16.80    .000
03688>                         ================================================
03689>                         SUM 07:toSWMF      12.32    1.790   1.00  20.44    .000
03690>
03691>    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
03692>
03693> ---------------------------------------------------------------------------
03694> 001:0157-----------------------------------------------------------------
03695> ----------------------
03696> | ROUTE RESERVOIR    |    Requested routing time step =  1.0 min.
03697> |  IN>07:(toSWMF)    |
03698> | OUT<01:(SWMF  )    |    =========  OUTLFOW STORAGE TABLE  =========
03699> ----------------------    OUTFLOW    STORAGE    |  OUTFLOW    STORAGE
03700>                             (cms)     (ha.m.)    |    (cms)    (ha.m.)
03701>                              .000  .0000E+00     |     .340  .2740E+00
03702>                              .011  .2900E-01     |     .697  .3140E+00
03703>                              .015  .6000E-01     |    1.206  .3540E+00
03704>                              .019  .9200E-01     |    1.880  .3960E+00
03705>                              .022  .1260E+00     |    2.734  .4380E+00
03706>                              .024  .1610E+00     |    3.779  .4820E+00
03707>                              .027  .1980E+00     |    5.029  .5260E+00
03708>                              .120  .2360E+00     |     .000  .0000E+00
03709>
03710>      ROUTING RESULTS             AREA     QPEAK     TPEAK       R.V.
03711>      --------------------        (ha)     (cms)     (hrs)       (mm)
03712>      INFLOW >07: (toSWMF)       12.32    1.790     1.000     20.439
03713>      OUTFLOW<01: (SWMF  )       12.32     .068    2.750      20.439
03714>     OVERFLOW<02: (OverQ )         .00     .000     .000        .000
03715>
03716>                     TOTAL NUMBER OF SIMULATED OVERFLOWS  =         0
03717>                     CUMULATIVE TIME OF OVERFLOWS  (hours)=       .00
03718>                     PERCENTAGE OF TIME OVERFLOWING    (%)=       .00
03719>
03720>
03721>                     PEAK   FLOW   REDUCTION [Qout/Qin](%)=    3.796
03722>                     TIME SHIFT OF PEAK FLOW          (min)=   105.00
03723>                     MAXIMUM  STORAGE   USED       (ha.m.)=.2147E+00
03724>
03725> ---------------------------------------------------------------------------
03726> 001:0158-----------------------------------------------------------------
03727> ----------------------
03728> | CALIB STANDHYD     |   Area    (ha)=   18.54
03729> | 03:EX-2   DT= 1.00 |   Total Imp(%)=   35.00   Dir. Conn.(%)=   25.00
03730> ----------------------
03731>                              IMPERVIOUS    PERVIOUS (i)
03732>      Surface Area     (ha)=       6.49        12.05
03733>      Dep. Storage     (mm)=       2.00         5.00
03734>      Average Slope     (%)=       1.00         2.00
03735>      Length            (m)=      90.00        50.00
03736>      Mannings n             =      .013         .250
03737>
03738>      Max.eff.Inten.(mm/hr)=     170.84         9.49
03739>                 over (min)        2.00        23.00
03740>      Storage Coeff.  (min)=       1.94 (ii)   22.64 (ii)
03741>      Unit Hyd. Tpeak (min)=       2.00        23.00
03742>      Unit Hyd. peak  (cms)=        .57          .05
03743>                                                          *TOTALS*
03744>      PEAK FLOW       (cms)=       2.04          .18         2.058 (iii)
03745>      TIME TO PEAK    (hrs)=       1.00         1.45         1.000
03746>      RUNOFF VOLUME    (mm)=      49.88         5.77        16.796
03747>      TOTAL RAINFALL   (mm)=      51.88        51.88        51.878
03748>      RUNOFF COEFFICIENT   =         .96          .11          .324
03749>
03750>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
03751>            CN* =  39.0    Ia = Dep. Storage  (Above)
03752>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
03753>            THAN THE STORAGE COEFFICIENT.
03754>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
03755>
03756> ---------------------------------------------------------------------------
03757> 001:0159-----------------------------------------------------------------
03758> ----------------------
03759> | CALIB STANDHYD     |   Area    (ha)=     .51
03760> | 05:C209   DT= 1.00 |   Total Imp(%)=   61.00   Dir. Conn.(%)=   55.00
03761> ----------------------
03762>                              IMPERVIOUS    PERVIOUS (i)
03763>      Surface Area     (ha)=        .31          .20
03764>      Dep. Storage     (mm)=       2.00         5.00
03765>      Average Slope     (%)=       1.00         2.00
03766>      Length            (m)=      90.00        10.00
03767>      Mannings n             =      .013         .250
03768>
03769>      Max.eff.Inten.(mm/hr)=     170.84        14.36
03770>                 over (min)        2.00         9.00
03771>      Storage Coeff.  (min)=       1.94 (ii)    8.61 (ii)
03772>      Unit Hyd. Tpeak (min)=       2.00         9.00
03773>      Unit Hyd. peak  (cms)=        .57          .13
03774>                                                          *TOTALS*
03775>      PEAK FLOW       (cms)=        .12          .01          .125 (iii)
03776>      TIME TO PEAK    (hrs)=       1.00         1.18         1.000
03777>      RUNOFF VOLUME    (mm)=      49.88         5.77        30.029
03778>      TOTAL RAINFALL   (mm)=      51.88        51.88        51.878
03779>      RUNOFF COEFFICIENT   =         .96          .11          .579
03780>
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03781>       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
03782>           CN* =  39.0    Ia = Dep. Storage  (Above)
03783>      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
03784>           THAN THE STORAGE COEFFICIENT.
03785>     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
03786>
03787> ---------------------------------------------------------------------------
03788> 001:0160-------------------------------------------------------------------
03789> ----------------------
03790> | COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .109  (cms)
03791> | TotalHyd 05:C209   |   Number of inlets in system [NINLET] =      1
03792> ----------------------   Total minor system capacity          =    .109  (cms)
03793>                          Total major system storage [TMJSTO] =      0.(cu.m.)
03794>
03795>                  ID: NHYD        AREA     QPEAK     TPEAK     R.V.      DWF
03796>                                   (ha)     (cms)     (hrs)     (mm)     (cms)
03797>     TOTAL HYD.   05:C209           .51      .125     1.000   30.029     .000
03798>     ==========================================================================
03799>     MAJOR SYST   08:toET3          .01      .016     1.000   30.029     .000
03800>     MINOR SYST   07:toWT1          .50      .109      .983   30.029     .000
03801>
03802>     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
03803>
03804> ---------------------------------------------------------------------------
03805> 001:0161-------------------------------------------------------------------
03806> ----------------------
03807> | ADD HYD (EAST-T    ) | ID: NHYD          AREA     QPEAK   TPEAK   R.V.    DWF
03808> ----------------------                     (ha)     (cms)   (hrs)   (mm)   (cms)
03809>                       ID1 01:SWMF          12.32     .068    2.75  20.44    .000
03810>                      +ID2 02:OverQ           .00     .000     .00    .00    .000
03811>                      +ID3 03:EX-2          18.54    2.058    1.00  16.80    .000
03812>                      +ID4 04:toET1           .00     .000     .00    .00    .000
03813>                      +ID5 06:toET2           .00     .000     .00    .00    .000
03814>                      +ID6 08:toET3           .01     .016    1.00  30.03    .000
03815>                       ========================================================
03816>                       SUM 05:EAST-T        30.87    2.090    1.00  18.25    .000
03817>
03818>    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
03819>
03820> ---------------------------------------------------------------------------
03821> 001:0162-------------------------------------------------------------------
03822> ----------------------
03823> | CALIB STANDHYD     |   Area    (ha)=     .39
03824> | 01:C210   DT= 1.00 |   Total Imp(%)=   90.00   Dir. Conn.(%)=   90.00
03825> ----------------------
03826>                              IMPERVIOUS    PERVIOUS (i)
03827>      Surface Area     (ha)=        .35          .04
03828>      Dep. Storage     (mm)=       2.00         5.00
03829>      Average Slope     (%)=       1.00         2.00
03830>      Length            (m)=      90.00        10.00
03831>      Mannings n            =       .013         .250
03832>
03833>      Max.eff.Inten.(mm/hr)=     170.84        10.23
03834>                   over (min)       2.00        10.00
03835>      Storage Coeff.  (min)=       1.94 (ii)    9.58 (ii)
03836>      Unit Hyd. Tpeak (min)=       2.00        10.00
03837>      Unit Hyd. peak  (cms)=        .57          .12
03838>                                                          *TOTALS*
03839>      PEAK FLOW       (cms)=        .15          .00          .155 (iii)
03840>      TIME TO PEAK    (hrs)=       1.00         1.20         1.000
03841>      RUNOFF VOLUME    (mm)=      49.88         4.95        45.385
03842>      TOTAL RAINFALL   (mm)=      51.88        51.88        51.878
03843>      RUNOFF COEFFICIENT   =        .96          .10          .875
03844>
03845>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
03846>            CN* =  39.0    Ia = Dep. Storage  (Above)
03847>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
03848>            THAN THE STORAGE COEFFICIENT.
03849>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
03850>
03851> ---------------------------------------------------------------------------
03852> 001:0163-------------------------------------------------------------------
03853> ----------------------
03854> | CALIB NASHYD       |   Area    (ha)=    7.98   Curve Number    (CN)=62.00
03855> | 02:C206   DT= 1.00 |   Ia      (mm)=   8.000   # of Linear Res.(N)= 3.00
03856> ----------------------   U.H. Tp(hrs)=    .540
03857>
03858>      Unit Hyd Qpeak  (cms)=     .564
03859>
03860>      PEAK FLOW       (cms)=     .136 (i)
03861>      TIME TO PEAK    (hrs)=    1.767
03862>      RUNOFF VOLUME    (mm)=    9.648
03863>      TOTAL RAINFALL   (mm)=   51.878
03864>      RUNOFF COEFFICIENT   =     .186
03865>
03866>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
03867>
03868> ---------------------------------------------------------------------------
03869> 001:0164-------------------------------------------------------------------
03870> ----------------------
03871> | CALIB STANDHYD     |   Area    (ha)=     .54
03872> | 03:C107   DT= 1.00 |   Total Imp(%)=   75.00   Dir. Conn.(%)=    1.00
03873> ----------------------
03874>                              IMPERVIOUS    PERVIOUS (i)
03875>      Surface Area     (ha)=        .41          .14
03876>      Dep. Storage     (mm)=       2.00         5.00
03877>      Average Slope     (%)=       1.00         2.00
03878>      Length            (m)=      90.00        40.00
03879>      Mannings n            =       .013         .250
03880>
03881>      Max.eff.Inten.(mm/hr)=     170.84       162.07
03882>                   over (min)       2.00         8.00
03883>      Storage Coeff.  (min)=       1.94 (ii)    7.75 (ii)
03884>      Unit Hyd. Tpeak (min)=       2.00         8.00
03885>      Unit Hyd. peak  (cms)=        .57          .14
03886>                                                          *TOTALS*
03887>      PEAK FLOW       (cms)=        .00          .04          .041 (iii)
03888>      TIME TO PEAK    (hrs)=       1.00         1.12         1.117
03889>      RUNOFF VOLUME    (mm)=      49.88        16.97        17.302
03890>      TOTAL RAINFALL   (mm)=      51.88        51.88        51.878
03891>      RUNOFF COEFFICIENT   =        .96          .33          .334
03892>
03893>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
03894>            CN* =  39.0    Ia = Dep. Storage  (Above)
03895>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
03896>            THAN THE STORAGE COEFFICIENT.
03897>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
03898>
03899> ---------------------------------------------------------------------------
03900> 001:0165-------------------------------------------------------------------
03901> ----------------------
03902> | ADD HYD (WEST-T    ) | ID: NHYD          AREA     QPEAK   TPEAK   R.V.    DWF
03903> ----------------------                     (ha)     (cms)   (hrs)   (mm)   (cms)
03904>                       ID1 01:C210            .39     .155    1.00  45.39    .000
03905>                      +ID2 02:C206           7.98     .136    1.77   9.65    .000
03906>                      +ID3 03:C107            .54     .041    1.12  17.30    .000
03907>                      +ID4 07:toWT1           .50     .109     .98  30.03    .000
03908>                       ========================================================
03909>                       SUM 04:WEST-T         9.41     .285    1.00  12.66    .000
03910>
03911>    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
03912>
03913> ---------------------------------------------------------------------------
03914> 001:0166-------------------------------------------------------------------
03915> ----------------------
03916> | CALIB NASHYD       |   Area    (ha)=    6.96   Curve Number    (CN)=32.00
03917> | 01:C201   DT= 1.00 |   Ia      (mm)=   8.000   # of Linear Res.(N)= 3.00
03918> ----------------------   U.H. Tp(hrs)=    .510
03919>
03920>      Unit Hyd Qpeak  (cms)=     .521
03921>
03922>      PEAK FLOW       (cms)=     .041 (i)
03923>      TIME TO PEAK    (hrs)=    1.750
03924>      RUNOFF VOLUME    (mm)=    3.299
03925>      TOTAL RAINFALL   (mm)=   51.878
03926>      RUNOFF COEFFICIENT   =     .064
03927>
03928>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
03929>
03930> ---------------------------------------------------------------------------
03931> 001:0167-------------------------------------------------------------------
03932> ----------------------
03933> | CALIB NASHYD       |   Area    (ha)=    2.04   Curve Number    (CN)=55.00
03934> | 02:C204   DT= 1.00 |   Ia      (mm)=   8.000   # of Linear Res.(N)= 3.00
03935> ----------------------   U.H. Tp(hrs)=    .480
03936>
03937>      Unit Hyd Qpeak  (cms)=     .162
03938>
03939>      PEAK FLOW       (cms)=     .030 (i)
03940>      TIME TO PEAK    (hrs)=    1.683
03941>      RUNOFF VOLUME    (mm)=    7.649
03942>      TOTAL RAINFALL   (mm)=   51.878
03943>      RUNOFF COEFFICIENT   =     .147
03944>
03945>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
03946>
03947> ---------------------------------------------------------------------------
03948> 001:0168-------------------------------------------------------------------
03949> ----------------------
03950> | ADD HYD (NORTH-W   ) | ID: NHYD          AREA     QPEAK   TPEAK   R.V.    DWF
03951> ----------------------                     (ha)     (cms)   (hrs)   (mm)   (cms)
03952>                       ID1 01:C201           6.96     .041    1.75   3.30    .000
03953>                      +ID2 02:C204           2.04     .030    1.68   7.65    .000
03954>                       ========================================================
03955>                       SUM 03:NORTH-W        9.00     .071    1.72   4.28    .000
03956>
03957>    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
03958>
03959> ---------------------------------------------------------------------------
03960> 001:0169-------------------------------------------------------------------
03961> ----------------------
03962> | CALIB NASHYD       |   Area    (ha)=   11.96   Curve Number    (CN)=44.00
03963> | 01:C205   DT= 1.00 |   Ia      (mm)=   8.000   # of Linear Res.(N)= 3.00
03964> ----------------------   U.H. Tp(hrs)=    .870
03965>
03966>      Unit Hyd Qpeak  (cms)=     .525
03967>
03968>      PEAK FLOW       (cms)=     .079 (i)
03969>      TIME TO PEAK    (hrs)=    2.233
03970>      RUNOFF VOLUME    (mm)=    5.244
03971>      TOTAL RAINFALL   (mm)=   51.878
03972>      RUNOFF COEFFICIENT   =     .101
03973>
03974>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
03975>
03976> ---------------------------------------------------------------------------
03977> 001:0170-------------------------------------------------------------------
03978> ----------------------
03979> | CALIB STANDHYD     |   Area    (ha)=     .61
03980> | 02:C108   DT= 1.00 |   Total Imp(%)=   75.00   Dir. Conn.(%)=    1.00
03981> ----------------------
03982>                              IMPERVIOUS    PERVIOUS (i)
03983>      Surface Area     (ha)=        .46          .15
03984>      Dep. Storage     (mm)=       2.00         5.00
03985>      Average Slope     (%)=       1.00         2.00
03986>      Length            (m)=      90.00        40.00
03987>      Mannings n            =       .013         .250
03988>
03989>      Max.eff.Inten.(mm/hr)=     170.84       162.07
03990>                   over (min)       2.00         8.00
03991>      Storage Coeff.  (min)=       1.94 (ii)    7.75 (ii)
03992>      Unit Hyd. Tpeak (min)=       2.00         8.00
03993>      Unit Hyd. peak  (cms)=        .57          .14
03994>                                                          *TOTALS*
03995>      PEAK FLOW       (cms)=        .00          .05          .046 (iii)
03996>      TIME TO PEAK    (hrs)=       1.00         1.12         1.117
03997>      RUNOFF VOLUME    (mm)=      49.88        16.97        17.302
03998>      TOTAL RAINFALL   (mm)=      51.88        51.88        51.878
03999>      RUNOFF COEFFICIENT   =        .96          .33          .334
04000>
04001>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
04002>            CN* =  39.0    Ia = Dep. Storage  (Above)
04003>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
04004>            THAN THE STORAGE COEFFICIENT.
04005>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
04006>
04007> ---------------------------------------------------------------------------
04008> 001:0171-------------------------------------------------------------------
04009> ----------------------
04010> | ADD HYD (CENTER-W  ) | ID: NHYD          AREA     QPEAK   TPEAK   R.V.    DWF
04011> ----------------------                     (ha)     (cms)   (hrs)   (mm)   (cms)
04012>                       ID1 01:C205          11.96     .079    2.23   5.24    .000
04013>                      +ID2 02:C108            .61     .046    1.12  17.30    .000
04014>                       ========================================================
04015>                       SUM 04:CENTER-W      12.57     .085    2.18   5.83    .000
04016>
04017>    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
04018>
04019> ---------------------------------------------------------------------------
04020> 001:0172-------------------------------------------------------------------
04021> *##########################################################################
04022> *#                        ==========================================
04023> *#                         PROSPOSED ULTIMATE DEVELOPMENT CONDITIONS
04024> *#                        ==========================================
04025> *##########################################################################
04026> ----------------------
04027> | CALIB STANDHYD     |   Area    (ha)=     .43
04028> | 01:B100   DT= 1.00 |   Total Imp(%)=   80.00   Dir. Conn.(%)=   60.00
04029> ----------------------
04030>                              IMPERVIOUS    PERVIOUS (i)
04031>      Surface Area     (ha)=        .34          .09
04032>      Dep. Storage     (mm)=       2.00         5.00
04033>      Average Slope     (%)=       1.00         2.00
04034>      Length            (m)=      90.00        25.00
04035>      Mannings n            =       .013         .250
04036>
04037>      Max.eff.Inten.(mm/hr)=     170.84        43.89
04038>                   over (min)       2.00         9.00
04039>      Storage Coeff.  (min)=       1.94 (ii)    9.34 (ii)
04040>      Unit Hyd. Tpeak (min)=       2.00         9.00
04041>      Unit Hyd. peak  (cms)=        .57          .12
04042>                                                          *TOTALS*
04043>      PEAK FLOW       (cms)=        .11          .01          .116 (iii)
04044>      TIME TO PEAK    (hrs)=       1.00         1.18         1.000
04045>      RUNOFF VOLUME    (mm)=      49.88         9.83        33.859
04046>      TOTAL RAINFALL   (mm)=      51.88        51.88        51.878
04047>      RUNOFF COEFFICIENT   =        .96          .19          .653
04048>
04049>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
04050>            CN* =  39.0    Ia = Dep. Storage  (Above)
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```
04051>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
04052>            THAN THE STORAGE COEFFICIENT.
04053>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
04054>
04055> ------------------------------------------------------------------------------
04056> 001:0173------------------------------------------------------------------------
04057> ----------------------
04058> | COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .077  (cms)
04059> | TotalHyd 01:B100   |   Number of inlets in system [NINLET] =      1
04060> ----------------------   Total minor system capacity          =    .077  (cms)
04061>                          Total major system storage [TMJSTO] =      0.(cu.m.)
04062>
04063>                    ID: NHYD        AREA     QPEAK     TPEAK     R.V.      DWF
04064>                                     (ha)     (cms)     (hrs)     (mm)     (cms)
04065>      TOTAL HYD.   01:B100          .43      .116     1.000   33.859     .000
04066>      ==========================================================================
04067>      MAJOR SYST   03:toCW1          .03      .039     1.000   33.859     .000
04068>      MINOR SYST   02:toSWMF         .40      .077      .950   33.859     .000
04069>
04070>      NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
04071>
04072> ------------------------------------------------------------------------------
04073> 001:0174------------------------------------------------------------------------
04074> ----------------------
04075> | CALIB STANDHYD     |   Area    (ha)=    4.00
04076> | 01:C303   DT= 1.00 |   Total Imp(%)=   40.00   Dir. Conn.(%)=   30.00
04077> ----------------------
04078>                              IMPERVIOUS    PERVIOUS (i)
04079>      Surface Area     (ha)=       1.60         2.40
04080>      Dep. Storage     (mm)=       2.00         5.00
04081>      Average Slope     (%)=       1.00         2.00
04082>      Length            (m)=      90.00        25.00
04083>      Mannings n             =      .013         .250
04084>
04085>      Max.eff.Inten.(mm/hr)=     170.84        12.41
04086>                    over (min)       2.00        14.00
04087>      Storage Coeff.  (min)=       1.94 (ii)   14.20 (ii)
04088>      Unit Hyd. Tpeak (min)=       2.00        14.00
04089>      Unit Hyd. peak  (cms)=        .57          .08
04090>                                                          *TOTALS*
04091>      PEAK FLOW       (cms)=        .53          .05          .537 (iii)
04092>      TIME TO PEAK    (hrs)=       1.00         1.28         1.000
04093>      RUNOFF VOLUME    (mm)=      49.88         5.84        19.049
04094>      TOTAL RAINFALL   (mm)=      51.88        51.88        51.878
04095>      RUNOFF COEFFICIENT   =        .96          .11          .367
04096>
04097>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
04098>            CN* =  39.0    Ia = Dep. Storage  (Above)
04099>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
04100>            THAN THE STORAGE COEFFICIENT.
04101>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
04102>
04103> ------------------------------------------------------------------------------
04104> 001:0175------------------------------------------------------------------------
04105> ----------------------
04106> | COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .440  (cms)
04107> | TotalHyd 01:C303   |   Number of inlets in system [NINLET] =      1
04108> ----------------------   Total minor system capacity          =    .440  (cms)
04109>                          Total major system storage [TMJSTO] =      0.(cu.m.)
04110>
04111>                    ID: NHYD        AREA     QPEAK     TPEAK     R.V.      DWF
04112>                                     (ha)     (cms)     (hrs)     (mm)     (cms)
04113>      TOTAL HYD.   01:C303          4.00      .537     1.000   19.049     .000
04114>      ==========================================================================
04115>      MAJOR SYST   05:toCW2          .08      .097     1.000   19.049     .000
04116>      MINOR SYST   04:toSWMF        3.92      .440      .967   19.049     .000
04117>
04118>      NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
04119>
04120> ------------------------------------------------------------------------------
04121> 001:0176------------------------------------------------------------------------
04122> ----------------------
04123> | CALIB STANDHYD     |   Area    (ha)=    1.14
04124> | 01:C309   DT= 1.00 |   Total Imp(%)=   62.00   Dir. Conn.(%)=   57.00
04125> ----------------------
04126>                              IMPERVIOUS    PERVIOUS (i)
04127>      Surface Area     (ha)=       .71          .43
04128>      Dep. Storage     (mm)=       2.00         5.00
04129>      Average Slope     (%)=       1.00         2.00
04130>      Length            (m)=      90.00        25.00
04131>      Mannings n             =      .013         .250
04132>
04133>      Max.eff.Inten.(mm/hr)=     170.84        11.37
04134>                    over (min)       2.00        15.00
04135>      Storage Coeff.  (min)=       1.94 (ii)   14.64 (ii)
04136>      Unit Hyd. Tpeak (min)=       2.00        15.00
04137>      Unit Hyd. peak  (cms)=        .57          .08
04138>                                                          *TOTALS*
04139>      PEAK FLOW       (cms)=        .29          .01          .288 (iii)
04140>      TIME TO PEAK    (hrs)=       1.00         1.30         1.000
04141>      RUNOFF VOLUME    (mm)=      49.88         5.65        30.861
04142>      TOTAL RAINFALL   (mm)=      51.88        51.88        51.878
04143>      RUNOFF COEFFICIENT   =        .96          .11          .595
04144>
04145>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
04146>            CN* =  39.0    Ia = Dep. Storage  (Above)
04147>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
04148>            THAN THE STORAGE COEFFICIENT.
04149>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
04150>
04151> ------------------------------------------------------------------------------
04152> 001:0177------------------------------------------------------------------------
04153> ----------------------
04154> | COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .237  (cms)
04155> | TotalHyd 01:C309   |   Number of inlets in system [NINLET] =      1
04156> ----------------------   Total minor system capacity          =    .237  (cms)
04157>                          Total major system storage [TMJSTO] =      0.(cu.m.)
04158>
04159>                    ID: NHYD        AREA     QPEAK     TPEAK     R.V.      DWF
04160>                                     (ha)     (cms)     (hrs)     (mm)     (cms)
04161>      TOTAL HYD.   01:C309          1.14      .288     1.000   30.861     .000
04162>      ==========================================================================
04163>      MAJOR SYST   07:toCW3          .03      .051     1.000   30.861     .000
04164>      MINOR SYST   06:toSWMF        1.11      .237      .967   30.861     .000
04165>
04166>      NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
04167>
04168> ------------------------------------------------------------------------------
04169> 001:0178------------------------------------------------------------------------
04170> ----------------------
04171> | CALIB STANDHYD     |   Area    (ha)=     .27
04172> | 01:C308   DT= 1.00 |   Total Imp(%)=   90.00   Dir. Conn.(%)=   90.00
04173> ----------------------
04174>                              IMPERVIOUS    PERVIOUS (i)
04175>      Surface Area     (ha)=       .24          .03
04176>      Dep. Storage     (mm)=       2.00         5.00
04177>      Average Slope     (%)=       1.00         2.00
04178>      Length            (m)=      90.00        40.00
04179>      Mannings n             =      .013         .250
04180>
04181>      Max.eff.Inten.(mm/hr)=     170.84         7.18
04182>                    over (min)       2.00        22.00
04183>      Storage Coeff.  (min)=       1.94 (ii)   22.17 (ii)
04184>      Unit Hyd. Tpeak (min)=       2.00        22.00
04185>      Unit Hyd. peak  (cms)=        .57          .05
04186>                                                          *TOTALS*
04187>      PEAK FLOW       (cms)=        .11          .00          .107 (iii)
04188>      TIME TO PEAK    (hrs)=       1.00         1.43         1.000
04189>      RUNOFF VOLUME    (mm)=      49.88         4.95        45.385
04190>      TOTAL RAINFALL   (mm)=      51.88        51.88        51.878
04191>      RUNOFF COEFFICIENT   =        .96          .10          .875
04192>
04193>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
04194>            CN* =  39.0    Ia = Dep. Storage  (Above)
04195>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
04196>            THAN THE STORAGE COEFFICIENT.
04197>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
04198>
04199> ------------------------------------------------------------------------------
04200> 001:0179------------------------------------------------------------------------
04201> ----------------------
04202> | COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .025  (cms)
04203> | TotalHyd 01:C308   |   Number of inlets in system [NINLET] =      1
04204> ----------------------   Total minor system capacity          =    .025  (cms)
04205>                          Total major system storage [TMJSTO] =      0.(cu.m.)
04206>
04207>                    ID: NHYD        AREA     QPEAK     TPEAK     R.V.      DWF
04208>                                     (ha)     (cms)     (hrs)     (mm)     (cms)
04209>      TOTAL HYD.   01:C308           .27      .107     1.000   45.385     .000
04210>      ==========================================================================
04211>      MAJOR SYST   09:toCW4          .09      .082     1.000   45.385     .000
04212>      MINOR SYST   08:toSWMF        .18      .025      .867   45.385     .000
04213>
04214>      NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
04215>
04216> ------------------------------------------------------------------------------
04217> 001:0180------------------------------------------------------------------------
04218> ----------------------
04219> | CALIB NASHYD       |   Area    (ha)=    9.89   Curve Number   (CN)=34.00
04220> | 01:C304   DT= 1.00 |   Ia      (mm)=   8.000   # of Linear Res.(N)= 3.00
04221> ----------------------   U.H. Tp(hrs)=    .510
04222>
04223>      Unit Hyd Qpeak  (cms)=     .741
04224>
04225>      PEAK FLOW       (cms)=     .064 (i)
04226>      TIME TO PEAK    (hrs)=    1.750
04227>      RUNOFF VOLUME    (mm)=    3.586
04228>      TOTAL RAINFALL   (mm)=   51.878
04229>      RUNOFF COEFFICIENT   =     .069
04230>
04231>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
04232>
04233> ------------------------------------------------------------------------------
04234> 001:0181------------------------------------------------------------------------
04235> ------------------------
04236> | ADD HYD (CENTER-W  ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
04237> ------------------------                   (ha)     (cms)   (hrs)   (mm)    (cms)
04238>                      ID1 01:C304           9.89     .064    1.75    3.59    .000
04239>                     +ID2 03:toCW1          .03     .039    1.00   33.86    .000
04240>                     +ID3 05:toCW2          .08     .097    1.00   19.05    .000
04241>                     +ID4 07:toCW3          .03     .051    1.00   30.86    .000
04242>                     +ID5 09:toCW4          .09     .082    1.00   45.39    .000
04243>                      ==========================================================
04244>                      SUM 10:CENTER-W      10.11     .270    1.00    4.21    .000
04245>
04246>    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
04247>
04248> ------------------------------------------------------------------------------
04249> 001:0182------------------------------------------------------------------------
04250> ----------------------
04251> | ROUTE RESERVOIR    |   Requested routing time step =  1.0 min.
04252> |  IN>10:(CENTER)    |
04253> | OUT<01:(CW-SSD)    |   =========  OUTFLOW STORAGE TABLE  =========
04254> ----------------------   OUTFLOW     STORAGE    |  OUTFLOW     STORAGE
04255>                            (cms)      (ha.m.)   |    (cms)     (ha.m.)
04256>                            .000  .0000E+00    |     .222  .6400E+00
04257>                            .000  .3700E+00    |     .000  .0000E+00
04258>
04259>      ROUTING RESULTS             AREA     QPEAK     TPEAK       R.V.
04260>      --------------------        (ha)     (cms)     (hrs)       (mm)
04261>      INFLOW >10: (CENTER)       10.11     .270     1.000      4.208
04262>      OUTFLOW<01: (CW-SSD)       10.11     .000      .000       .000
04263>     OVERFLOW<03: (toWT1 )         .00     .000      .000       .000
04264>
04265>                     TOTAL NUMBER OF SIMULATED OVERFLOWS  =        0
04266>                     CUMULATIVE TIME OF OVERFLOWS  (hours)=      .00
04267>                     PERCENTAGE OF TIME OVERFLOWING    (%)=      .00
04268>
04269>
04270>                     PEAK   FLOW   REDUCTION [Qout/Qin](%)=     .000
04271>                     TIME SHIFT OF PEAK FLOW          (min)=   -60.00
04272>                     MAXIMUM  STORAGE   USED       (ha.m.)=.4252E-01
04273>
04274>      *** WARNING: Outflow volume is less than inflow volume.
04275> ------------------------------------------------------------------------------
04276> 001:0183------------------------------------------------------------------------
04277> ----------------------
04278> | CALIB STANDHYD     |   Area    (ha)=     .44
04279> | 05:C207   DT= 1.00 |   Total Imp(%)=   35.00   Dir. Conn.(%)=   25.00
04280> ----------------------
04281>                              IMPERVIOUS    PERVIOUS (i)
04282>      Surface Area     (ha)=       .15          .29
04283>      Dep. Storage     (mm)=       2.00         5.00
04284>      Average Slope     (%)=       1.00         2.00
04285>      Length            (m)=      90.00        25.00
04286>      Mannings n             =      .013         .250
04287>
04288>      Max.eff.Inten.(mm/hr)=     170.84        12.13
04289>                    over (min)       2.00        14.00
04290>      Storage Coeff.  (min)=       1.94 (ii)   14.32 (ii)
04291>      Unit Hyd. Tpeak (min)=       2.00        14.00
04292>      Unit Hyd. peak  (cms)=        .57          .08
04293>                                                          *TOTALS*
04294>      PEAK FLOW       (cms)=        .05          .01          .049 (iii)
04295>      TIME TO PEAK    (hrs)=       1.00         1.28         1.000
04296>      RUNOFF VOLUME    (mm)=      49.88         5.77        16.796
04297>      TOTAL RAINFALL   (mm)=      51.88        51.88        51.878
04298>      RUNOFF COEFFICIENT   =        .96          .11          .324
04299>
04300>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
04301>            CN* =  39.0    Ia = Dep. Storage  (Above)
04302>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
04303>            THAN THE STORAGE COEFFICIENT.
04304>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
04305>
04306> ------------------------------------------------------------------------------
04307> 001:0184------------------------------------------------------------------------
04308> ----------------------
04309> | COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .064  (cms)
04310> | TotalHyd 05:C207   |   Number of inlets in system [NINLET] =      1
04311> ----------------------   Total minor system capacity          =    .064  (cms)
04312>                          Total major system storage [TMJSTO] =      0.(cu.m.)
04313>
04314>                    ID: NHYD        AREA     QPEAK     TPEAK     R.V.      DWF
04315>                                     (ha)     (cms)     (hrs)     (mm)     (cms)
04316>      TOTAL HYD.   05:C207           .44      .049     1.000   16.796     .000
04317>      ==========================================================================
04318>      MAJOR SYST   09:toET1          .00      .000      .000      .000     .000
04319>      MINOR SYST   07:toSWMF        .44      .049     1.000   16.796     .000
04320>
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04321>      NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
04322>
04323> ------------------------------------------------------------------------------
04324> 001:0185------------------------------------------------------------------------
04325> ----------------------
04326> | CALIB STANDHYD     |   Area    (ha)=     .93
04327> | 05:C208   DT= 1.00 |   Total Imp(%)=   35.00   Dir. Conn.(%)=   25.00
04328> ----------------------
04329>                              IMPERVIOUS    PERVIOUS (i)
04330>      Surface Area     (ha)=        .33          .60
04331>      Dep. Storage     (mm)=       2.00         5.00
04332>      Average Slope     (%)=       1.00         2.00
04333>      Length            (m)=      90.00        25.00
04334>      Mannings n            =       .013         .250
04335>
04336>      Max.eff.Inten.(mm/hr)=     170.84        12.13
04337>                    over (min)        2.00        14.00
04338>      Storage Coeff.  (min)=       1.94 (ii)   14.32 (ii)
04339>      Unit Hyd. Tpeak (min)=       2.00        14.00
04340>      Unit Hyd. peak  (cms)=        .57          .08
04341>                                                        *TOTALS*
04342>      PEAK FLOW       (cms)=        .10          .01          .104 (iii)
04343>      TIME TO PEAK    (hrs)=       1.00         1.00         1.000
04344>      RUNOFF VOLUME    (mm)=      49.88         5.77        16.796
04345>      TOTAL RAINFALL   (mm)=      51.88        51.88        51.878
04346>      RUNOFF COEFFICIENT   =         .96          .11          .324
04347>
04348>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
04349>            CN* =  39.0    Ia = Dep. Storage  (Above)
04350>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
04351>            THAN THE STORAGE COEFFICIENT.
04352>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
04353>
04354> ------------------------------------------------------------------------------
04355> 001:0186------------------------------------------------------------------------
04356> ----------------------
04357> | COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .119  (cms)
04358> | TotalHyd 05:C208   |   Number of inlets in system [NINLET] =      1
04359> ----------------------   Total minor system capacity          =    .119  (cms)
04360>                          Total major system storage [TMJSTO] =      0.(cu.m.)
04361>
04362>                    ID: NHYD        AREA     QPEAK     TPEAK     R.V.      DWF
04363>                                     (ha)     (cms)     (hrs)     (mm)    (cms)
04364>      TOTAL HYD.   05:C208           .93      .104     1.000   16.796     .000
04365>      ------------------------------------------------------------------------
04366>      MAJOR SYST   03:toET2          .00      .000      .000     .000     .000
04367>      MINOR SYST   01:toSWMF         .93      .104     1.000   16.796     .000
04368>
04369>      NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
04370>
04371> ------------------------------------------------------------------------------
04372> 001:0187------------------------------------------------------------------------
04373> ------------------------
04374> | ADD HYD (toSWMF1A  ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
04375> ------------------------                   (ha)     (cms)   (hrs)   (mm)   (cms)
04376>                        ID1 01:toSWMF6       .93      .104   1.00  16.80    .000
04377>                       +ID2 02:toSWMF1       .40      .077    .95  33.86    .000
04378>                       +ID3 04:toSWMF2      3.92      .440    .97  19.05    .000
04379>                       +ID4 06:toSWMF3      1.11      .237    .97  30.86    .000
04380>                       +ID5 07:toSWMF5       .44      .049   1.00  16.80    .000
04381>                       +ID6 08:toSWMF4       .18      .025    .87  45.39    .000
04382>                        ========================================================
04383>                        SUM 05:toSWMF1A      6.99      .933   1.00  22.04    .000
04384>
04385>    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
04386>
04387> ------------------------------------------------------------------------------
04388> 001:0188------------------------------------------------------------------------
04389> ----------------------
04390> | CALIB STANDHYD     |   Area    (ha)=   12.10
04391> | 01:C302   DT= 1.00 |   Total Imp(%)=   41.00   Dir. Conn.(%)=   31.00
04392> ----------------------
04393>                              IMPERVIOUS    PERVIOUS (i)
04394>      Surface Area     (ha)=       4.96         7.14
04395>      Dep. Storage     (mm)=       2.00         5.00
04396>      Average Slope     (%)=       1.00         2.00
04397>      Length            (m)=      90.00        25.00
04398>      Mannings n            =       .013         .250
04399>
04400>      Max.eff.Inten.(mm/hr)=     170.84        12.48
04401>                    over (min)        2.00        14.00
04402>      Storage Coeff.  (min)=       1.94 (ii)   14.18 (ii)
04403>      Unit Hyd. Tpeak (min)=       2.00        14.00
04404>      Unit Hyd. peak  (cms)=        .57          .08
04405>                                                        *TOTALS*
04406>      PEAK FLOW       (cms)=       1.65          .15         1.677 (iii)
04407>      TIME TO PEAK    (hrs)=       1.00         1.28         1.000
04408>      RUNOFF VOLUME    (mm)=      49.88         5.85        19.499
04409>      TOTAL RAINFALL   (mm)=      51.88        51.88        51.878
04410>      RUNOFF COEFFICIENT   =         .96          .11          .376
04411>
04412>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
04413>            CN* =  39.0    Ia = Dep. Storage  (Above)
04414>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
04415>            THAN THE STORAGE COEFFICIENT.
04416>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
04417>
04418> ------------------------------------------------------------------------------
04419> 001:0189------------------------------------------------------------------------
04420> ----------------------
04421> | CALIB STANDHYD     |   Area    (ha)=    1.29
04422> | 02:C203   DT= 1.00 |   Total Imp(%)=   68.00   Dir. Conn.(%)=   66.00
04423> ----------------------
04424>                              IMPERVIOUS    PERVIOUS (i)
04425>      Surface Area     (ha)=        .88          .41
04426>      Dep. Storage     (mm)=       2.00         5.00
04427>      Average Slope     (%)=        .50         2.00
04428>      Length            (m)=     100.00       100.00
04429>      Mannings n            =       .013         .250
04430>
04431>      Max.eff.Inten.(mm/hr)=     170.84         5.66
04432>                    over (min)        3.00        41.00
04433>      Storage Coeff.  (min)=       2.54 (ii)   41.12 (ii)
04434>      Unit Hyd. Tpeak (min)=       3.00        41.00
04435>      Unit Hyd. peak  (cms)=        .42          .03
04436>                                                        *TOTALS*
04437>      PEAK FLOW       (cms)=        .34          .00          .343 (iii)
04438>      TIME TO PEAK    (hrs)=       1.02         1.80         1.017
04439>      RUNOFF VOLUME    (mm)=      49.88         5.28        34.716
04440>      TOTAL RAINFALL   (mm)=      51.88        51.88        51.878
04441>      RUNOFF COEFFICIENT   =         .96          .10          .669
04442>
04443>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
04444>            CN* =  39.0    Ia = Dep. Storage  (Above)
04445>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
04446>            THAN THE STORAGE COEFFICIENT.
04447>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
04448>
04449> ------------------------------------------------------------------------------
04450> 001:0190------------------------------------------------------------------------
04451> ------------------------
04452> | ADD HYD (toSWMF2A  ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
04453> ------------------------                   (ha)     (cms)   (hrs)   (mm)   (cms)
04454>                        ID1 01:C302         12.10    1.677   1.00  19.50    .000
04455>                       +ID2 02:C203          1.29     .343   1.02  34.72    .000
04456>                       +ID3 05:toSWMF1a      6.99     .933   1.00  22.04    .000
04457>                        ========================================================
04458>                        SUM 04:toSWMF2A      20.38    2.950   1.00  21.33    .000
04459>
04460>    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
04461>
04462> ------------------------------------------------------------------------------
04463> 001:0191------------------------------------------------------------------------
04464> ----------------------
04465> | ROUTE RESERVOIR    |    Requested routing time step =  1.0 min.
04466> |  IN>04:(toSWMF)    |
04467> | OUT<01:(SWMF  )    |   =========  OUTLFOW STORAGE TABLE  =========
04468> ----------------------   OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
04469>                            (cms)     (ha.m.)   |    (cms)    (ha.m.)
04470>                             .000  .0000E+00    |     .340  .2740E+00
04471>                             .011  .2900E-01    |     .697  .3140E+00
04472>                             .015  .6000E-01    |    1.206  .3540E+00
04473>                             .019  .9200E-01    |    1.880  .3960E+00
04474>                             .022  .1260E+00    |    2.734  .4380E+00
04475>                             .024  .1610E+00    |    3.779  .4820E+00
04476>                             .027  .1980E+00    |    5.029  .5260E+00
04477>                             .120  .2360E+00    |     .000  .0000E+00
04478>
04479>      ROUTING RESULTS            AREA     QPEAK     TPEAK       R.V.
04480>      -------------------         (ha)     (cms)     (hrs)       (mm)
04481>      INFLOW >04: (toSWMF)      20.38     2.950     1.000     21.333
04482>      OUTFLOW<01: (SWMF  )      20.38      .407     1.567     21.333
04483>     OVERFLOW<02: (OverQ )        .00      .000      .000       .000
04484>
04485>                    TOTAL NUMBER OF SIMULATED OVERFLOWS  =        0
04486>                    CUMULATIVE TIME OF OVERFLOWS  (hours)=      .00
04487>                    PERCENTAGE OF TIME OVERFLOWING    (%)=      .00
04488>
04489>
04490>                    PEAK   FLOW   REDUCTION [Qout/Qin](%)=   13.811
04491>                    TIME SHIFT OF PEAK FLOW          (min)=    34.00
04492>                    MAXIMUM  STORAGE   USED        (ha.m.)=.2816E+00
04493>
04494> ------------------------------------------------------------------------------
04495> 001:0192------------------------------------------------------------------------
04496> ----------------------
04497> | CALIB STANDHYD     |   Area    (ha)=   18.54
04498> | 04:EX-2   DT= 1.00 |   Total Imp(%)=   35.00   Dir. Conn.(%)=   25.00
04499> ----------------------
04500>                              IMPERVIOUS    PERVIOUS (i)
04501>      Surface Area     (ha)=       6.49        12.05
04502>      Dep. Storage     (mm)=       2.00         5.00
04503>      Average Slope     (%)=       1.00         2.00
04504>      Length            (m)=      90.00        50.00
04505>      Mannings n            =       .013         .250
04506>
04507>      Max.eff.Inten.(mm/hr)=     170.84         9.49
04508>                    over (min)        2.00        23.00
04509>      Storage Coeff.  (min)=       1.94 (ii)   22.64 (ii)
04510>      Unit Hyd. Tpeak (min)=       2.00        23.00
04511>      Unit Hyd. peak  (cms)=        .57          .05
04512>                                                        *TOTALS*
04513>      PEAK FLOW       (cms)=       2.04          .18         2.058 (iii)
04514>      TIME TO PEAK    (hrs)=       1.00         1.45         1.000
04515>      RUNOFF VOLUME    (mm)=      49.88         5.77        16.796
04516>      TOTAL RAINFALL   (mm)=      51.88        51.88        51.878
04517>      RUNOFF COEFFICIENT   =         .96          .11          .324
04518>
04519>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
04520>            CN* =  39.0    Ia = Dep. Storage  (Above)
04521>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
04522>            THAN THE STORAGE COEFFICIENT.
04523>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
04524>
04525> ------------------------------------------------------------------------------
04526> 001:0193------------------------------------------------------------------------
04527> ----------------------
04528> | CALIB STANDHYD     |   Area    (ha)=    .51
04529> | 05:C209   DT= 1.00 |   Total Imp(%)=   61.00   Dir. Conn.(%)=   55.00
04530> ----------------------
04531>                              IMPERVIOUS    PERVIOUS (i)
04532>      Surface Area     (ha)=        .31          .20
04533>      Dep. Storage     (mm)=       2.00         5.00
04534>      Average Slope     (%)=       1.00         2.00
04535>      Length            (m)=      90.00        10.00
04536>      Mannings n            =       .013         .250
04537>
04538>      Max.eff.Inten.(mm/hr)=     170.84        14.36
04539>                    over (min)        2.00         9.00
04540>      Storage Coeff.  (min)=       1.94 (ii)    8.61 (ii)
04541>      Unit Hyd. Tpeak (min)=       2.00         9.00
04542>      Unit Hyd. peak  (cms)=        .57          .13
04543>                                                        *TOTALS*
04544>      PEAK FLOW       (cms)=        .12          .01          .125 (iii)
04545>      TIME TO PEAK    (hrs)=       1.00         1.18         1.000
04546>      RUNOFF VOLUME    (mm)=      49.88         5.77        30.029
04547>      TOTAL RAINFALL   (mm)=      51.88        51.88        51.878
04548>      RUNOFF COEFFICIENT   =         .96          .11          .579
04549>
04550>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
04551>            CN* =  39.0    Ia = Dep. Storage  (Above)
04552>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
04553>            THAN THE STORAGE COEFFICIENT.
04554>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
04555>
04556> ------------------------------------------------------------------------------
04557> 001:0194------------------------------------------------------------------------
04558> ----------------------
04559> | COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .109  (cms)
04560> | TotalHyd 05:C209   |   Number of inlets in system [NINLET] =      1
04561> ----------------------   Total minor system capacity          =    .109  (cms)
04562>                          Total major system storage [TMJSTO] =      0.(cu.m.)
04563>
04564>                    ID: NHYD        AREA     QPEAK     TPEAK     R.V.      DWF
04565>                                     (ha)     (cms)     (hrs)     (mm)    (cms)
04566>      TOTAL HYD.   05:C209           .51      .125     1.000   30.029     .000
04567>      ========================================================================
04568>      MAJOR SYST   07:toET3          .01      .016     1.000   30.029     .000
04569>      MINOR SYST   06:toWT2          .50      .109      .983   30.029     .000
04570>
04571>      NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
04572>
04573> ------------------------------------------------------------------------------
04574> 001:0195------------------------------------------------------------------------
04575> ------------------------
04576> | ADD HYD (EAST-T     ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
04577> ------------------------                   (ha)     (cms)   (hrs)   (mm)   (cms)
04578>                        ID1 01:SWMF         20.38     .407   1.57  21.33    .000
04579>                       +ID2 02:OverQ          .00     .000    .00    .00    .000
04580>                       +ID3 03:toET2          .00     .000    .00    .00    .000
04581>                       +ID4 04:EX-2         18.54    2.058   1.00  16.80    .000
04582>                       +ID5 07:toET3          .01     .016   1.00  30.03    .000
04583>                       +ID6 09:toET1          .00     .000    .00    .00    .000
04584>                        ========================================================
04585>                        SUM 05:EAST-T        38.93    2.096   1.00  19.17    .000
04586>
04587>    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
04588>
04589> ------------------------------------------------------------------------------
04590> 001:0196------------------------------------------------------------------------
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04591> ----------------------
04592> | CALIB STANDHYD     |   Area    (ha)=     .39
04593> | 01:C210   DT= 1.00 |   Total Imp(%)=   90.00   Dir. Conn.(%)=   90.00
04594> ----------------------
04595>                              IMPERVIOUS    PERVIOUS (i)
04596>      Surface Area     (ha)=        .35          .04
04597>      Dep. Storage     (mm)=       2.00         5.00
04598>      Average Slope     (%)=       1.00         2.00
04599>      Length            (m)=      90.00        10.00
04600>      Mannings n             =       .013         .250
04601>
04602>      Max.eff.Inten.(mm/hr)=     170.84        10.23
04603>                 over (min)        2.00        10.00
04604>      Storage Coeff.  (min)=       1.94 (ii)    9.58 (ii)
04605>      Unit Hyd. Tpeak (min)=       2.00        10.00
04606>      Unit Hyd. peak  (cms)=        .57          .12
04607>                                                          *TOTALS*
04608>      PEAK FLOW       (cms)=        .15          .00          .155 (iii)
04609>      TIME TO PEAK    (hrs)=       1.00         1.20         1.000
04610>      RUNOFF VOLUME    (mm)=      49.88         4.95        45.385
04611>      TOTAL RAINFALL   (mm)=      51.88        51.88        51.878
04612>      RUNOFF COEFFICIENT   =        .96          .10          .875
04613>
04614>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
04615>            CN* =  39.0    Ia = Dep. Storage  (Above)
04616>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
04617>            THAN THE STORAGE COEFFICIENT.
04618>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
04619>
04620> -------------------------------------------------------------------------------
04621> 001:0197-------------------------------------------------------------------------
04622> ----------------------
04623> | CALIB STANDHYD     |   Area    (ha)=     .27
04624> | 02:C307   DT= 1.00 |   Total Imp(%)=   90.00   Dir. Conn.(%)=    1.00
04625> ----------------------
04626>                              IMPERVIOUS    PERVIOUS (i)
04627>      Surface Area     (ha)=        .24          .03
04628>      Dep. Storage     (mm)=       2.00         5.00
04629>      Average Slope     (%)=       1.00         2.00
04630>      Length            (m)=      90.00        10.00
04631>      Mannings n             =       .013         .250
04632>
04633>      Max.eff.Inten.(mm/hr)=     170.84       976.15
04634>                 over (min)        2.00         3.00
04635>      Storage Coeff.  (min)=       1.94 (ii)    3.17 (ii)
04636>      Unit Hyd. Tpeak (min)=       2.00         3.00
04637>      Unit Hyd. peak  (cms)=        .57          .36
04638>                                                          *TOTALS*
04639>      PEAK FLOW       (cms)=        .00          .00          .056 (iii)
04640>      TIME TO PEAK    (hrs)=       1.00         1.02         1.017
04641>      RUNOFF VOLUME    (mm)=      49.88        28.84        29.053
04642>      TOTAL RAINFALL   (mm)=      51.88        51.88        51.878
04643>      RUNOFF COEFFICIENT   =        .96          .56          .560
04644>
04645>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
04646>            CN* =  39.0    Ia = Dep. Storage  (Above)
04647>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
04648>            THAN THE STORAGE COEFFICIENT.
04649>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
04650>
04651> -------------------------------------------------------------------------------
04652> 001:0198-------------------------------------------------------------------------
04653> ----------------------
04654> | CALIB STANDHYD     |   Area    (ha)=    2.61
04655> | 03:C305   DT= 1.00 |   Total Imp(%)=   76.00   Dir. Conn.(%)=   57.00
04656> ----------------------
04657>                              IMPERVIOUS    PERVIOUS (i)
04658>      Surface Area     (ha)=       1.98          .63
04659>      Dep. Storage     (mm)=       2.00         5.00
04660>      Average Slope     (%)=       1.00         2.00
04661>      Length            (m)=      90.00        25.00
04662>      Mannings n             =       .013         .250
04663>
04664>      Max.eff.Inten.(mm/hr)=     170.84        34.62
04665>                 over (min)        2.00        10.00
04666>      Storage Coeff.  (min)=       1.94 (ii)   10.07 (ii)
04667>      Unit Hyd. Tpeak (min)=       2.00        10.00
04668>      Unit Hyd. peak  (cms)=        .57          .11
04669>                                                          *TOTALS*
04670>      PEAK FLOW       (cms)=        .66          .04          .666 (iii)
04671>      TIME TO PEAK    (hrs)=       1.00         1.20         1.000
04672>      RUNOFF VOLUME    (mm)=      49.88         8.90        32.256
04673>      TOTAL RAINFALL   (mm)=      51.88        51.88        51.878
04674>      RUNOFF COEFFICIENT   =        .96          .17          .622
04675>
04676>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
04677>            CN* =  39.0    Ia = Dep. Storage  (Above)
04678>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
04679>            THAN THE STORAGE COEFFICIENT.
04680>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
04681>
04682> -------------------------------------------------------------------------------
04683> 001:0199-------------------------------------------------------------------------
04684> ----------------------
04685> | COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .030  (cms)
04686> | TotalHyd 03:C305   |   Number of inlets in system [NINLET] =       1
04687> ----------------------   Total minor system capacity          =    .030  (cms)
04688>                          Total major system storage [TMJSTO] =    730.(cu.m.)
04689>
04690>                    ID: NHYD        AREA     QPEAK     TPEAK     R.V.      DWF
04691>                                    (ha)     (cms)     (hrs)     (mm)     (cms)
04692>      TOTAL HYD.   03:C305          2.61      .666     1.000   32.256     .000
04693>      ================================================================================
04694>      MAJOR SYST   07:toWT3          .00      .000      .000     .000     .000
04695>      MINOR SYST   04:toPD          2.61      .030      .550   32.273     .000
04696>
04697>      NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
04698>
04699>      Maximum MAJOR SYSTEM storage used =     586.(cu.m.)
04700>
04701> -------------------------------------------------------------------------------
04702> 001:0200-------------------------------------------------------------------------
04703> ----------------------
04704> | CALIB NASHYD       |   Area    (ha)=    1.77   Curve Number   (CN)=36.00
04705> | 03:C306   DT= 1.00 |   Ia      (mm)=   8.000   # of Linear Res.(N)= 3.00
04706> ----------------------   U.H. Tp(hrs)=    .580
04707>
04708>      Unit Hyd Qpeak  (cms)=     .117
04709>
04710>      PEAK FLOW       (cms)=     .011 (i)
04711>      TIME TO PEAK    (hrs)=    1.833
04712>      RUNOFF VOLUME    (mm)=    3.886
04713>      TOTAL RAINFALL   (mm)=   51.878
04714>      RUNOFF COEFFICIENT   =     .075
04715>
04716>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
04717>
04718> -------------------------------------------------------------------------------
04719> 001:0201-------------------------------------------------------------------------
04720> ----------------------
04721> | ADD HYD (WEST-T    ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
04722> ----------------------                    (ha)     (cms)   (hrs)   (mm)    (cms)
04723>                      ID1 01:C210           .39     .155   1.00  45.39    .000
04724>                     +ID2 02:C307           .27     .056   1.02  29.05    .000
04725>                     +ID3 03:C306          1.77     .011   1.83   3.89    .000
04726>                     +ID4 04:toPD          2.61     .030    .55  32.27    .000
04727>                     +ID5 06:toWT2          .50     .109    .98  30.03    .000
04728>                     +ID6 07:toWT3          .00     .000    .00    .00    .000
04729>                      ============================================================
04730>                      SUM 08:WEST-T         5.54     .346   1.00  23.77    .000
04731>
04732>    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
04733>
04734> -------------------------------------------------------------------------------
04735> 001:0202-------------------------------------------------------------------------
04736> ----------------------
04737> | CALIB NASHYD       |   Area    (ha)=    7.88   Curve Number   (CN)=32.00
04738> | 01:C301   DT= 1.00 |   Ia      (mm)=   8.000   # of Linear Res.(N)= 3.00
04739> ----------------------   U.H. Tp(hrs)=    .510
04740>
04741>      Unit Hyd Qpeak  (cms)=     .590
04742>
04743>      PEAK FLOW       (cms)=     .047 (i)
04744>      TIME TO PEAK    (hrs)=    1.750
04745>      RUNOFF VOLUME    (mm)=    3.299
04746>      TOTAL RAINFALL   (mm)=   51.878
04747>      RUNOFF COEFFICIENT   =     .064
04748>
04749>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
04750>
04751> -------------------------------------------------------------------------------
04752> 001:0203-------------------------------------------------------------------------
04753> *#################################################################################
04754> *#
04755> *#                                        25-year
04756> *#                                        =======
04757> *#
04758> *#################################################################################
04759> ----------------------
04760> | CHICAGO STORM      |    IDF curve parameters: A=1835.352
04761> | Ptotal= 61.64 mm   |                          B=   7.844
04762> ----------------------                          C=    .858
04763>                          used in:   INTENSITY =  A / (t + B)^C
04764>
04765>                          Duration of storm   =  3.00 hrs
04766>                          Storm time step     =  5.00 min
04767>                          Time to peak ratio  =   .33
04768>
04769>                TIME    RAIN |   TIME    RAIN |   TIME    RAIN |   TIME    RAIN
04770>                 hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr
04771>                 .08   4.019 |    .83  29.207 |   1.58  13.537 |   2.33   5.534
04772>                 .17   4.442 |    .92  72.190 |   1.67  11.682 |   2.42   5.194
04773>                 .25   4.968 |   1.00 205.331 |   1.75  10.264 |   2.50   4.894
04774>                 .33   5.641 |   1.08  93.891 |   1.83   9.148 |   2.58   4.628
04775>                 .42   6.531 |   1.17  51.449 |   1.92   8.249 |   2.67   4.390
04776>                 .50   7.759 |   1.25  34.127 |   2.00   7.511 |   2.75   4.176
04777>                 .58   9.557 |   1.33  25.078 |   2.08   6.893 |   2.83   3.983
04778>                 .67  12.416 |   1.42  19.638 |   2.17   6.371 |   2.92   3.807
04779>                 .75  17.581 |   1.50  16.054 |   2.25   5.922 |   3.00   3.647
04780>
04781> -------------------------------------------------------------------------------
04782> 001:0204-------------------------------------------------------------------------
04783> *#################################################################################
04784> *#                                 ====================
04785> *#                                  EXISTING CONDITIONS
04786> *#                                 ====================
04787> *#################################################################################
04788> ----------------------
04789> | CALIB STANDHYD     |   Area    (ha)=   18.54
04790> | 01:EX-1   DT= 1.00 |   Total Imp(%)=   35.00   Dir. Conn.(%)=   25.00
04791> ----------------------
04792>                              IMPERVIOUS    PERVIOUS (i)
04793>      Surface Area     (ha)=       6.49         12.05
04794>      Dep. Storage     (mm)=       2.00          5.00
04795>      Average Slope     (%)=       1.00          2.00
04796>      Length            (m)=      90.00         50.00
04797>      Mannings n             =       .013          .250
04798>
04799>      Max.eff.Inten.(mm/hr)=     205.33         15.34
04800>                 over (min)        2.00         19.00
04801>      Storage Coeff.  (min)=       1.80 (ii)    18.88 (ii)
04802>      Unit Hyd. Tpeak (min)=       2.00         19.00
04803>      Unit Hyd. peak  (cms)=        .60           .06
04804>                                                          *TOTALS*
04805>      PEAK FLOW       (cms)=       2.49           .30          2.518 (iii)
04806>      TIME TO PEAK    (hrs)=       1.00          1.38         1.000
04807>      RUNOFF VOLUME    (mm)=      59.64          8.18        21.044
04808>      TOTAL RAINFALL   (mm)=      61.64         61.64        61.643
04809>      RUNOFF COEFFICIENT   =        .97           .13          .341
04810>
04811>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
04812>            CN* =  39.0    Ia = Dep. Storage  (Above)
04813>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
04814>            THAN THE STORAGE COEFFICIENT.
04815>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
04816>
04817> -------------------------------------------------------------------------------
04818> 001:0205-------------------------------------------------------------------------
04819> ----------------------
04820> | CALIB NASHYD       |   Area    (ha)=    9.06   Curve Number   (CN)=40.00
04821> | 02:C101   DT= 1.00 |   Ia      (mm)=   8.000   # of Linear Res.(N)= 3.00
04822> ----------------------   U.H. Tp(hrs)=    .510
04823>
04824>      Unit Hyd Qpeak  (cms)=     .679
04825>
04826>      PEAK FLOW       (cms)=     .111 (i)
04827>      TIME TO PEAK    (hrs)=    1.717
04828>      RUNOFF VOLUME    (mm)=    6.620
04829>      TOTAL RAINFALL   (mm)=   61.643
04830>      RUNOFF COEFFICIENT   =     .107
04831>
04832>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
04833>
04834> -------------------------------------------------------------------------------
04835> 001:0206-------------------------------------------------------------------------
04836> ----------------------
04837> | CALIB NASHYD       |   Area    (ha)=   13.09   Curve Number   (CN)=47.00
04838> | 03:C102   DT= 1.00 |   Ia      (mm)=   8.000   # of Linear Res.(N)= 3.00
04839> ----------------------   U.H. Tp(hrs)=    .850
04840>
04841>      Unit Hyd Qpeak  (cms)=     .588
04842>
04843>      PEAK FLOW       (cms)=     .146 (i)
04844>      TIME TO PEAK    (hrs)=    2.167
04845>      RUNOFF VOLUME    (mm)=    8.462
04846>      TOTAL RAINFALL   (mm)=   61.643
04847>      RUNOFF COEFFICIENT   =     .137
04848>
04849>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
04850>
04851> -------------------------------------------------------------------------------
04852> 001:0207-------------------------------------------------------------------------
04853> ----------------------
04854> | CALIB STANDHYD     |   Area    (ha)=     .61
04855> | 04:C108   DT= 1.00 |   Total Imp(%)=   75.00   Dir. Conn.(%)=    1.00
04856> ----------------------
04857>                              IMPERVIOUS    PERVIOUS (i)
04858>      Surface Area     (ha)=        .46          .15
04859>      Dep. Storage     (mm)=       2.00         5.00
04860>      Average Slope     (%)=       1.00         2.00
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04861>      Length            (m)=      90.00        40.00
04862>      Mannings n          =        .013         .250
04863>
04864>      Max.eff.Inten.(mm/hr)=     205.33       232.14
04865>                 over (min)        2.00         7.00
04866>      Storage Coeff.  (min)=       1.80 (ii)    6.84 (ii)
04867>      Unit Hyd. Tpeak (min)=       2.00         7.00
04868>      Unit Hyd. peak  (cms)=        .60          .16
04869>                                                          *TOTALS*
04870>      PEAK FLOW       (cms)=        .00          .07          .068 (iii)
04871>      TIME TO PEAK    (hrs)=       1.00         1.10         1.100
04872>      RUNOFF VOLUME    (mm)=      59.64        22.69        23.056
04873>      TOTAL RAINFALL   (mm)=      61.64        61.64        61.643
04874>      RUNOFF COEFFICIENT   =        .97          .37          .374
04875>
04876>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
04877>            CN* =  39.0    Ia = Dep. Storage  (Above)
04878>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
04879>            THAN THE STORAGE COEFFICIENT.
04880>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
04881>
04882> ------------------------------------------------------------------------------
04883> 001:0208--------------------------------------------------------------------
04884> ------------------------
04885> | ADD HYD (CENTER-W  ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
04886> ------------------------                   (ha)     (cms)   (hrs)   (mm)   (cms)
04887>                      ID1 03:C102          13.09     .146    2.17   8.46    .000
04888>                     +ID2 04:C108            .61     .068    1.10  23.06    .000
04889>                      ========================================================
04890>                      SUM 05:CENTER-W      13.70     .153    2.13   9.11    .000
04891>
04892>    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
04893>
04894> ------------------------------------------------------------------------------
04895> 001:0209--------------------------------------------------------------------
04896> ----------------------
04897> | CALIB NASHYD       |   Area    (ha)=    9.17   Curve Number   (CN)=64.00
04898> | 03:C104   DT= 1.00 |   Ia      (mm)=   8.000   # of Linear Res.(N)= 3.00
04899> ----------------------   U.H. Tp(hrs)=    .590
04900>
04901>      Unit Hyd Qpeak  (cms)=     .594
04902>
04903>      PEAK FLOW       (cms)=     .231 (i)
04904>      TIME TO PEAK    (hrs)=    1.817
04905>      RUNOFF VOLUME    (mm)=   14.643
04906>      TOTAL RAINFALL   (mm)=   61.643
04907>      RUNOFF COEFFICIENT   =     .238
04908>
04909>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
04910>
04911> ------------------------------------------------------------------------------
04912> 001:0210--------------------------------------------------------------------
04913> ----------------------
04914> | CALIB STANDHYD     |   Area    (ha)=    1.63
04915> | 04:C105   DT= 1.00 |   Total Imp(%)=   56.00   Dir. Conn.(%)=   50.00
04916> ----------------------
04917>                              IMPERVIOUS    PERVIOUS (i)
04918>      Surface Area     (ha)=        .91          .72
04919>      Dep. Storage     (mm)=       2.00         5.00
04920>      Average Slope     (%)=       1.00         2.00
04921>      Length            (m)=      90.00        40.00
04922>      Mannings n          =        .013         .250
04923>
04924>      Max.eff.Inten.(mm/hr)=     205.33       15.71
04925>                 over (min)        2.00        17.00
04926>      Storage Coeff.  (min)=       1.80 (ii)   16.60 (ii)
04927>      Unit Hyd. Tpeak (min)=       2.00        17.00
04928>      Unit Hyd. peak  (cms)=        .60          .07
04929>                                                          *TOTALS*
04930>      PEAK FLOW       (cms)=        .44          .02          .440 (iii)
04931>      TIME TO PEAK    (hrs)=       1.00         1.33         1.000
04932>      RUNOFF VOLUME    (mm)=      59.64         8.05        33.848
04933>      TOTAL RAINFALL   (mm)=      61.64        61.64        61.643
04934>      RUNOFF COEFFICIENT   =        .97          .13          .549
04935>
04936>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
04937>            CN* =  39.0    Ia = Dep. Storage  (Above)
04938>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
04939>            THAN THE STORAGE COEFFICIENT.
04940>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
04941>
04942> ------------------------------------------------------------------------------
04943> 001:0211--------------------------------------------------------------------
04944> ----------------------
04945> | ADD HYD (EAST-T    ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
04946> ----------------------                   (ha)     (cms)   (hrs)   (mm)   (cms)
04947>                      ID1 01:EX-1          18.54    2.518    1.00  21.04    .000
04948>                     +ID2 03:C104           9.17     .231    1.82  14.64    .000
04949>                     +ID3 04:C105           1.63     .440    1.00  33.85    .000
04950>                      ========================================================
04951>                      SUM 06:EAST-T        29.34    2.962    1.00  19.75    .000
04952>
04953>    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
04954>
04955> ------------------------------------------------------------------------------
04956> 001:0212--------------------------------------------------------------------
04957> ----------------------
04958> | CALIB NASHYD       |   Area    (ha)=    8.73   Curve Number   (CN)=62.00
04959> | 01:C103   DT= 1.00 |   Ia      (mm)=   8.000   # of Linear Res.(N)= 3.00
04960> ----------------------   U.H. Tp(hrs)=    .540
04961>
04962>      Unit Hyd Qpeak  (cms)=     .617
04963>
04964>      PEAK FLOW       (cms)=     .219 (i)
04965>      TIME TO PEAK    (hrs)=    1.750
04966>      RUNOFF VOLUME    (mm)=   13.747
04967>      TOTAL RAINFALL   (mm)=   61.643
04968>      RUNOFF COEFFICIENT   =     .223
04969>
04970>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
04971>
04972> ------------------------------------------------------------------------------
04973> 001:0213--------------------------------------------------------------------
04974> ----------------------
04975> | CALIB STANDHYD     |   Area    (ha)=     .47
04976> | 03:C106   DT= 1.00 |   Total Imp(%)=   75.00   Dir. Conn.(%)=    1.00
04977> ----------------------
04978>                              IMPERVIOUS    PERVIOUS (i)
04979>      Surface Area     (ha)=        .35          .12
04980>      Dep. Storage     (mm)=       2.00         5.00
04981>      Average Slope     (%)=       1.00         2.00
04982>      Length            (m)=      90.00        40.00
04983>      Mannings n          =        .013         .250
04984>
04985>      Max.eff.Inten.(mm/hr)=     205.33       232.14
04986>                 over (min)        2.00         7.00
04987>      Storage Coeff.  (min)=       1.80 (ii)    6.84 (ii)
04988>      Unit Hyd. Tpeak (min)=       2.00         7.00
04989>      Unit Hyd. peak  (cms)=        .60          .16
04990>                                                          *TOTALS*
04991>      PEAK FLOW       (cms)=        .00          .05          .052 (iii)
04992>      TIME TO PEAK    (hrs)=       1.00         1.10         1.100
04993>      RUNOFF VOLUME    (mm)=      59.64        22.69        23.056
04994>      TOTAL RAINFALL   (mm)=      61.64        61.64        61.643
04995>      RUNOFF COEFFICIENT   =        .97          .37          .374
04996>
04997>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
04998>            CN* =  39.0    Ia = Dep. Storage  (Above)
04999>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
05000>            THAN THE STORAGE COEFFICIENT.
05001>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
05002>
05003> ------------------------------------------------------------------------------
05004> 001:0214--------------------------------------------------------------------
05005> ----------------------
05006> | CALIB STANDHYD     |   Area    (ha)=     .54
05007> | 04:C107   DT= 1.00 |   Total Imp(%)=   75.00   Dir. Conn.(%)=    1.00
05008> ----------------------
05009>                              IMPERVIOUS    PERVIOUS (i)
05010>      Surface Area     (ha)=        .41          .14
05011>      Dep. Storage     (mm)=       2.00         5.00
05012>      Average Slope     (%)=       1.00         2.00
05013>      Length            (m)=      90.00        40.00
05014>      Mannings n          =        .013         .250
05015>
05016>      Max.eff.Inten.(mm/hr)=     205.33       232.14
05017>                 over (min)        2.00         7.00
05018>      Storage Coeff.  (min)=       1.80 (ii)    6.84 (ii)
05019>      Unit Hyd. Tpeak (min)=       2.00         7.00
05020>      Unit Hyd. peak  (cms)=        .60          .16
05021>                                                          *TOTALS*
05022>      PEAK FLOW       (cms)=        .00          .06          .060 (iii)
05023>      TIME TO PEAK    (hrs)=       1.00         1.10         1.100
05024>      RUNOFF VOLUME    (mm)=      59.64        22.69        23.056
05025>      TOTAL RAINFALL   (mm)=      61.64        61.64        61.643
05026>      RUNOFF COEFFICIENT   =        .97          .37          .374
05027>
05028>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
05029>            CN* =  39.0    Ia = Dep. Storage  (Above)
05030>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
05031>            THAN THE STORAGE COEFFICIENT.
05032>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
05033>
05034> ------------------------------------------------------------------------------
05035> 001:0215--------------------------------------------------------------------
05036> ----------------------
05037> | ADD HYD (WEST-T    ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
05038> ----------------------                   (ha)     (cms)   (hrs)   (mm)   (cms)
05039>                      ID1 01:C103           8.73     .219    1.75  13.75    .000
05040>                     +ID2 03:C106            .47     .052    1.10  23.06    .000
05041>                     +ID3 04:C107            .54     .060    1.10  23.06    .000
05042>                      ========================================================
05043>                      SUM 07:WEST-T         9.74     .242    1.68  14.71    .000
05044>
05045>    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
05046>
05047> ------------------------------------------------------------------------------
05048> 001:0216--------------------------------------------------------------------
05049> ----------------------
05050> | CALIB STANDHYD     |   Area    (ha)=     .17
05051> | 01:C109   DT= 1.00 |   Total Imp(%)=   75.00   Dir. Conn.(%)=    1.00
05052> ----------------------
05053>                              IMPERVIOUS    PERVIOUS (i)
05054>      Surface Area     (ha)=        .13          .04
05055>      Dep. Storage     (mm)=       2.00         5.00
05056>      Average Slope     (%)=       1.00         2.00
05057>      Length            (m)=      90.00        40.00
05058>      Mannings n          =        .013         .250
05059>
05060>      Max.eff.Inten.(mm/hr)=     205.33       232.14
05061>                 over (min)        2.00         7.00
05062>      Storage Coeff.  (min)=       1.80 (ii)    6.84 (ii)
05063>      Unit Hyd. Tpeak (min)=       2.00         7.00
05064>      Unit Hyd. peak  (cms)=        .60          .16
05065>                                                          *TOTALS*
05066>      PEAK FLOW       (cms)=        .00          .02          .019 (iii)
05067>      TIME TO PEAK    (hrs)=       1.00         1.10         1.100
05068>      RUNOFF VOLUME    (mm)=      59.64        22.69        23.056
05069>      TOTAL RAINFALL   (mm)=      61.64        61.64        61.643
05070>      RUNOFF COEFFICIENT   =        .97          .37          .374
05071>
05072>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
05073>            CN* =  39.0    Ia = Dep. Storage  (Above)
05074>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
05075>            THAN THE STORAGE COEFFICIENT.
05076>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
05077>
05078> ------------------------------------------------------------------------------
05079> 001:0217--------------------------------------------------------------------
05080> *#################################################################################
05081> *#                          ========================================
05082> *#                           PROSPOSED INTERIM DEVELOPMENT CONDITIONS
05083> *#                          ========================================
05084> *#################################################################################
05085> ----------------------
05086> | CALIB STANDHYD     |   Area    (ha)=    9.66
05087> | 01:C202   DT= 1.00 |   Total Imp(%)=   40.00   Dir. Conn.(%)=   30.00
05088> ----------------------
05089>                              IMPERVIOUS    PERVIOUS (i)
05090>      Surface Area     (ha)=       3.86         5.80
05091>      Dep. Storage     (mm)=       2.00         5.00
05092>      Average Slope     (%)=       1.00         2.00
05093>      Length            (m)=      90.00        25.00
05094>      Mannings n          =        .013         .250
05095>
05096>      Max.eff.Inten.(mm/hr)=     205.33       19.29
05097>                 over (min)        2.00        12.00
05098>      Storage Coeff.  (min)=       1.80 (ii)   12.08 (ii)
05099>      Unit Hyd. Tpeak (min)=       2.00        12.00
05100>      Unit Hyd. peak  (cms)=        .60          .09
05101>                                                          *TOTALS*
05102>      PEAK FLOW       (cms)=       1.56          .19         1.592 (iii)
05103>      TIME TO PEAK    (hrs)=       1.00         1.25         1.000
05104>      RUNOFF VOLUME    (mm)=      59.64         8.27        23.681
05105>      TOTAL RAINFALL   (mm)=      61.64        61.64        61.643
05106>      RUNOFF COEFFICIENT   =        .97          .13          .384
05107>
05108>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
05109>            CN* =  39.0    Ia = Dep. Storage  (Above)
05110>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
05111>            THAN THE STORAGE COEFFICIENT.
05112>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
05113>
05114> ------------------------------------------------------------------------------
05115> 001:0218--------------------------------------------------------------------
05116> ----------------------
05117> | CALIB STANDHYD     |   Area    (ha)=     .44
05118> | 02:C207   DT= 1.00 |   Total Imp(%)=   35.00   Dir. Conn.(%)=   25.00
05119> ----------------------
05120>                              IMPERVIOUS    PERVIOUS (i)
05121>      Surface Area     (ha)=        .15          .29
05122>      Dep. Storage     (mm)=       2.00         5.00
05123>      Average Slope     (%)=       1.00         2.00
05124>      Length            (m)=      90.00        25.00
05125>      Mannings n          =        .013         .250
05126>
05127>      Max.eff.Inten.(mm/hr)=     205.33       18.85
05128>                 over (min)        2.00        12.00
05129>      Storage Coeff.  (min)=       1.80 (ii)   12.17 (ii)
05130>      Unit Hyd. Tpeak (min)=       2.00        12.00
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05131>      Unit Hyd. peak  (cms)=        .60          .09
05132>                                                          *TOTALS*
05133>      PEAK FLOW       (cms)=        .06          .01          .061 (iii)
05134>      TIME TO PEAK    (hrs)=       1.00         1.25         1.000
05135>      RUNOFF VOLUME    (mm)=      59.64         8.18        21.044
05136>      TOTAL RAINFALL   (mm)=      61.64        61.64        61.643
05137>      RUNOFF COEFFICIENT   =        .97          .13          .341
05138>
05139>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
05140>            CN* =  39.0    Ia = Dep. Storage  (Above)
05141>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
05142>            THAN THE STORAGE COEFFICIENT.
05143>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
05144>
05145> ------------------------------------------------------------------------------
05146> 001:0219------------------------------------------------------------------------
05147> ----------------------
05148> | COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .064  (cms)
05149> | TotalHyd 02:C207   |   Number of inlets in system [NINLET] =       1
05150> ----------------------   Total minor system capacity          =    .064  (cms)
05151>                          Total major system storage [TMJSTO] =       0.(cu.m.)
05152>
05153>                   ID: NHYD        AREA     QPEAK     TPEAK     R.V.      DWF
05154>                                    (ha)     (cms)     (hrs)     (mm)     (cms)
05155>      TOTAL HYD.   02:C207          .44      .061     1.000   21.044     .000
05156>      ======================================================================
05157>      MAJOR SYST   04:toET1         .00      .000      .000     .000     .000
05158>      MINOR SYST   03:toSWMF        .44      .061     1.000   21.044     .000
05159>
05160>      NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
05161>
05162> ------------------------------------------------------------------------------
05163> 001:0220------------------------------------------------------------------------
05164> ----------------------
05165> | CALIB STANDHYD     |   Area    (ha)=     .93
05166> | 02:C208   DT= 1.00 |   Total Imp(%)=   35.00   Dir. Conn.(%)=   25.00
05167> ----------------------
05168>                                IMPERVIOUS    PERVIOUS (i)
05169>      Surface Area     (ha)=        .33          .60
05170>      Dep. Storage     (mm)=       2.00         5.00
05171>      Average Slope     (%)=       1.00         2.00
05172>      Length            (m)=      90.00        25.00
05173>      Mannings n             =      .013         .250
05174>
05175>      Max.eff.Inten.(mm/hr)=     205.33        18.85
05176>                 over (min)        2.00        12.00
05177>      Storage Coeff.  (min)=       1.80 (ii)   12.17 (ii)
05178>      Unit Hyd. Tpeak (min)=       2.00        12.00
05179>      Unit Hyd. peak  (cms)=        .60          .09
05180>                                                          *TOTALS*
05181>      PEAK FLOW       (cms)=        .12          .02          .128 (iii)
05182>      TIME TO PEAK    (hrs)=       1.00         1.25         1.000
05183>      RUNOFF VOLUME    (mm)=      59.64         8.18        21.044
05184>      TOTAL RAINFALL   (mm)=      61.64        61.64        61.643
05185>      RUNOFF COEFFICIENT   =        .97          .13          .341
05186>
05187>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
05188>            CN* =  39.0    Ia = Dep. Storage  (Above)
05189>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
05190>            THAN THE STORAGE COEFFICIENT.
05191>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
05192>
05193> ------------------------------------------------------------------------------
05194> 001:0221------------------------------------------------------------------------
05195> ----------------------
05196> | COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .119  (cms)
05197> | TotalHyd 02:C208   |   Number of inlets in system [NINLET] =       1
05198> ----------------------   Total minor system capacity          =    .119  (cms)
05199>                          Total major system storage [TMJSTO] =       0.(cu.m.)
05200>
05201>                   ID: NHYD        AREA     QPEAK     TPEAK     R.V.      DWF
05202>                                    (ha)     (cms)     (hrs)     (mm)     (cms)
05203>      TOTAL HYD.   02:C208          .93      .128     1.000   21.044     .000
05204>      ======================================================================
05205>      MAJOR SYST   06:toET2         .00      .010     1.000   21.044     .000
05206>      MINOR SYST   05:toSWMF        .93      .119      .983   21.044     .000
05207>
05208>      NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
05209>
05210> ------------------------------------------------------------------------------
05211> 001:0222------------------------------------------------------------------------
05212> ----------------------
05213> | CALIB STANDHYD     |   Area    (ha)=    1.29
05214> | 02:C203   DT= 1.00 |   Total Imp(%)=   68.00   Dir. Conn.(%)=   66.00
05215> ----------------------
05216>                                IMPERVIOUS    PERVIOUS (i)
05217>      Surface Area     (ha)=        .88          .41
05218>      Dep. Storage     (mm)=       2.00         5.00
05219>      Average Slope     (%)=        .50         2.00
05220>      Length            (m)=     100.00       100.00
05221>      Mannings n             =      .013         .250
05222>
05223>      Max.eff.Inten.(mm/hr)=     205.33         9.25
05224>                 over (min)        2.00        34.00
05225>      Storage Coeff.  (min)=       2.36 (ii)   34.06 (ii)
05226>      Unit Hyd. Tpeak (min)=       2.00        34.00
05227>      Unit Hyd. peak  (cms)=        .50          .03
05228>                                                          *TOTALS*
05229>      PEAK FLOW       (cms)=        .43          .01          .435 (iii)
05230>      TIME TO PEAK    (hrs)=       1.00         1.67         1.000
05231>      RUNOFF VOLUME    (mm)=      59.64         7.52        41.922
05232>      TOTAL RAINFALL   (mm)=      61.64        61.64        61.643
05233>      RUNOFF COEFFICIENT   =        .97          .12          .680
05234>
05235>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
05236>            CN* =  39.0    Ia = Dep. Storage  (Above)
05237>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
05238>            THAN THE STORAGE COEFFICIENT.
05239>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
05240>
05241> ------------------------------------------------------------------------------
05242> 001:0223------------------------------------------------------------------------
05243> ------------------------
05244> | ADD HYD (toSWMF    ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
05245> ------------------------                   (ha)     (cms)   (hrs)   (mm)   (cms)
05246>                        ID1 01:C202          9.66    1.592    1.00  23.68    .000
05247>                       +ID2 02:C203          1.29     .435    1.00  41.92    .000
05248>                       +ID3 03:toSWMF1        .44     .061    1.00  21.04    .000
05249>                       +ID4 05:toSWMF2        .93     .119     .98  21.04    .000
05250>                        ========================================================
05251>                        SUM 07:toSWMF        12.32    2.206    1.00  25.30    .000
05252>
05253>    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
05254>
05255> ------------------------------------------------------------------------------
05256> 001:0224------------------------------------------------------------------------
05257> ----------------------
05258> | ROUTE RESERVOIR    |   Requested routing time step =  1.0 min.
05259> |  IN>07:(toSWMF)    |
05260> | OUT<01:(SWMF  )    |   =========  OUTLFOW STORAGE TABLE  =========
05261> ----------------------   OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
05262>                            (cms)    (ha.m.)   |    (cms)    (ha.m.)
05263>                             .000  .0000E+00    |     .340  .2740E+00
05264>                             .011  .2900E-01    |     .697  .3140E+00
05265>                             .015  .6000E-01    |    1.206  .3540E+00
05266>                             .019  .9200E-01    |    1.880  .3960E+00
05267>                             .022  .1260E+00    |    2.734  .4380E+00
05268>                             .024  .1610E+00    |    3.779  .4820E+00
05269>                             .027  .1980E+00    |    5.029  .5260E+00
05270>                             .120  .2360E+00    |     .000  .0000E+00
05271>
05272>      ROUTING RESULTS             AREA     QPEAK     TPEAK       R.V.
05273>      ---------------------        (ha)     (cms)     (hrs)       (mm)
05274>      INFLOW >07: (toSWMF)       12.32     2.206     1.000     25.299
05275>      OUTFLOW<01: (SWMF  )       12.32      .150     2.017     25.299
05276>     OVERFLOW<02: (OverQ )         .00      .000      .000       .000
05277>
05278>                     TOTAL NUMBER OF SIMULATED OVERFLOWS  =         0
05279>                     CUMULATIVE TIME OF OVERFLOWS  (hours)=       .00
05280>                     PERCENTAGE OF TIME OVERFLOWING    (%)=       .00
05281>
05282>
05283>                     PEAK   FLOW   REDUCTION [Qout/Qin](%)=     6.794
05284>                     TIME SHIFT OF PEAK FLOW          (min)=     61.00
05285>                     MAXIMUM  STORAGE   USED       (ha.m.)=.2412E+00
05286>
05287> ------------------------------------------------------------------------------
05288> 001:0225------------------------------------------------------------------------
05289> ----------------------
05290> | CALIB STANDHYD     |   Area    (ha)=   18.54
05291> | 03:EX-2   DT= 1.00 |   Total Imp(%)=   35.00   Dir. Conn.(%)=   25.00
05292> ----------------------
05293>                                IMPERVIOUS    PERVIOUS (i)
05294>      Surface Area     (ha)=       6.49         12.05
05295>      Dep. Storage     (mm)=       2.00          5.00
05296>      Average Slope     (%)=       1.00          2.00
05297>      Length            (m)=      90.00         50.00
05298>      Mannings n             =      .013          .250
05299>
05300>      Max.eff.Inten.(mm/hr)=     205.33         15.34
05301>                 over (min)        2.00         19.00
05302>      Storage Coeff.  (min)=       1.80 (ii)   18.88 (ii)
05303>      Unit Hyd. Tpeak (min)=       2.00         19.00
05304>      Unit Hyd. peak  (cms)=        .60           .06
05305>                                                          *TOTALS*
05306>      PEAK FLOW       (cms)=       2.49           .30         2.518 (iii)
05307>      TIME TO PEAK    (hrs)=       1.00          1.38         1.000
05308>      RUNOFF VOLUME    (mm)=      59.64          8.18        21.044
05309>      TOTAL RAINFALL   (mm)=      61.64         61.64        61.643
05310>      RUNOFF COEFFICIENT   =        .97           .13          .341
05311>
05312>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
05313>            CN* =  39.0    Ia = Dep. Storage  (Above)
05314>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
05315>            THAN THE STORAGE COEFFICIENT.
05316>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
05317>
05318> ------------------------------------------------------------------------------
05319> 001:0226------------------------------------------------------------------------
05320> ----------------------
05321> | CALIB STANDHYD     |   Area    (ha)=     .51
05322> | 05:C209   DT= 1.00 |   Total Imp(%)=   61.00   Dir. Conn.(%)=   55.00
05323> ----------------------
05324>                                IMPERVIOUS    PERVIOUS (i)
05325>      Surface Area     (ha)=        .31          .20
05326>      Dep. Storage     (mm)=       2.00         5.00
05327>      Average Slope     (%)=       1.00         2.00
05328>      Length            (m)=      90.00        10.00
05329>      Mannings n             =      .013         .250
05330>
05331>      Max.eff.Inten.(mm/hr)=     205.33        21.79
05332>                 over (min)        2.00         7.00
05333>      Storage Coeff.  (min)=       1.80 (ii)    7.45 (ii)
05334>      Unit Hyd. Tpeak (min)=       2.00         7.00
05335>      Unit Hyd. peak  (cms)=        .60          .16
05336>                                                          *TOTALS*
05337>      PEAK FLOW       (cms)=        .15          .01          .154 (iii)
05338>      TIME TO PEAK    (hrs)=       1.00         1.15         1.000
05339>      RUNOFF VOLUME    (mm)=      59.64         8.18        36.483
05340>      TOTAL RAINFALL   (mm)=      61.64        61.64        61.643
05341>      RUNOFF COEFFICIENT   =        .97          .13          .592
05342>
05343>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
05344>            CN* =  39.0    Ia = Dep. Storage  (Above)
05345>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
05346>            THAN THE STORAGE COEFFICIENT.
05347>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
05348>
05349> ------------------------------------------------------------------------------
05350> 001:0227------------------------------------------------------------------------
05351> ----------------------
05352> | COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .109  (cms)
05353> | TotalHyd 05:C209   |   Number of inlets in system [NINLET] =       1
05354> ----------------------   Total minor system capacity          =    .109  (cms)
05355>                          Total major system storage [TMJSTO] =       0.(cu.m.)
05356>
05357>                   ID: NHYD        AREA     QPEAK     TPEAK     R.V.      DWF
05358>                                    (ha)     (cms)     (hrs)     (mm)     (cms)
05359>      TOTAL HYD.   05:C209          .51      .154     1.000   36.483     .000
05360>      ======================================================================
05361>      MAJOR SYST   08:toET3         .02      .044     1.000   36.483     .000
05362>      MINOR SYST   07:toWT1         .49      .109      .950   36.483     .000
05363>
05364>      NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
05365>
05366> ------------------------------------------------------------------------------
05367> 001:0228------------------------------------------------------------------------
05368> ------------------------
05369> | ADD HYD (EAST-T    ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
05370> ------------------------                   (ha)     (cms)   (hrs)   (mm)   (cms)
05371>                        ID1 01:SWMF          12.32     .150    2.02  25.30    .000
05372>                       +ID2 02:OverQ          .00     .000     .00    .00    .000
05373>                       +ID3 03:EX-2         18.54    2.518    1.00  21.04    .000
05374>                       +ID4 04:toET1          .00     .000     .00    .00    .000
05375>                       +ID5 06:toET2          .00     .010    1.00  21.04    .000
05376>                       +ID6 08:toET3          .02     .044    1.00  36.48    .000
05377>                        ========================================================
05378>                        SUM 05:EAST-T        30.88    2.591    1.00  22.75    .000
05379>
05380>   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
05381>
05382> ------------------------------------------------------------------------------
05383> 001:0229------------------------------------------------------------------------
05384> ----------------------
05385> | CALIB STANDHYD     |   Area    (ha)=     .39
05386> | 01:C210   DT= 1.00 |   Total Imp(%)=   90.00   Dir. Conn.(%)=   90.00
05387> ----------------------
05388>                                IMPERVIOUS    PERVIOUS (i)
05389>      Surface Area     (ha)=        .35          .04
05390>      Dep. Storage     (mm)=       2.00         5.00
05391>      Average Slope     (%)=       1.00         2.00
05392>      Length            (m)=      90.00        10.00
05393>      Mannings n             =      .013         .250
05394>
05395>      Max.eff.Inten.(mm/hr)=     205.33        15.80
05396>                 over (min)        2.00         8.00
05397>      Storage Coeff.  (min)=       1.80 (ii)    8.22 (ii)
05398>      Unit Hyd. Tpeak (min)=       2.00         8.00
05399>      Unit Hyd. peak  (cms)=        .60          .14
05400>                                                          *TOTALS*
```

```
05401>      PEAK FLOW       (cms)=        .19          .00           .189 (iii)
05402>      TIME TO PEAK    (hrs)=       1.00         1.17          1.000
05403>      RUNOFF VOLUME    (mm)=      59.64         7.07         54.385
05404>      TOTAL RAINFALL   (mm)=      61.64        61.64         61.643
05405>      RUNOFF COEFFICIENT   =        .97          .11           .882
05406>
05407>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
05408>            CN* =  39.0    Ia = Dep. Storage  (Above)
05409>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
05410>            THAN THE STORAGE COEFFICIENT.
05411>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
05412>
05413> ------------------------------------------------------------------------------
05414> 001:0230--------------------------------------------------------------------
05415> ----------------------
05416> | CALIB NASHYD       |   Area    (ha)=    7.98   Curve Number    (CN)=62.00
05417> | 02:C206   DT= 1.00 |   Ia      (mm)=   8.000   # of Linear Res.(N)= 3.00
05418> ----------------------  U.H. Tp(hrs)=    .540
05419>
05420>      Unit Hyd Qpeak  (cms)=     .564
05421>
05422>      PEAK FLOW       (cms)=     .200 (i)
05423>      TIME TO PEAK    (hrs)=    1.750
05424>      RUNOFF VOLUME    (mm)=   13.747
05425>      TOTAL RAINFALL   (mm)=   61.643
05426>      RUNOFF COEFFICIENT   =     .223
05427>
05428>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
05429>
05430> ------------------------------------------------------------------------------
05431> 001:0231--------------------------------------------------------------------
05432> ----------------------
05433> | CALIB STANDHYD     |   Area    (ha)=     .54
05434> | 03:C107   DT= 1.00 |   Total Imp(%)=   75.00   Dir. Conn.(%)=    1.00
05435> ----------------------
05436>                              IMPERVIOUS    PERVIOUS (i)
05437>      Surface Area     (ha)=        .41          .14
05438>      Dep. Storage     (mm)=       2.00         5.00
05439>      Average Slope     (%)=       1.00         2.00
05440>      Length            (m)=      90.00        40.00
05441>      Mannings n            =       .013         .250
05442>
05443>      Max.eff.Inten.(mm/hr)=     205.33       232.14
05444>                  over (min)        2.00         7.00
05445>      Storage Coeff.  (min)=       1.80 (ii)    6.84 (ii)
05446>      Unit Hyd. Tpeak (min)=       2.00         7.00
05447>      Unit Hyd. peak  (cms)=        .60          .16
05448>                                                          *TOTALS*
05449>      PEAK FLOW       (cms)=        .00          .06           .060 (iii)
05450>      TIME TO PEAK    (hrs)=       1.00         1.10          1.100
05451>      RUNOFF VOLUME    (mm)=      59.64        22.69         23.056
05452>      TOTAL RAINFALL   (mm)=      61.64        61.64         61.643
05453>      RUNOFF COEFFICIENT   =        .97          .37           .374
05454>
05455>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
05456>            CN* =  39.0    Ia = Dep. Storage  (Above)
05457>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
05458>            THAN THE STORAGE COEFFICIENT.
05459>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
05460>
05461> ------------------------------------------------------------------------------
05462> 001:0232--------------------------------------------------------------------
05463> ------------------------
05464> | ADD HYD (WEST-T    ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
05465> ------------------------                   (ha)     (cms)   (hrs)   (mm)   (cms)
05466>                        ID1 01:C210          .39     .189    1.00  54.39    .000
05467>                       +ID2 02:C206         7.98     .200    1.75  13.75    .000
05468>                       +ID3 03:C107          .54     .060    1.10  23.06    .000
05469>                       +ID4 07:toWT1         .49     .109     .95  36.48    .000
05470>                        ========================================================
05471>                        SUM 04:WEST-T        9.40     .333    1.00  17.14    .000
05472>
05473>    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
05474>
05475> ------------------------------------------------------------------------------
05476> 001:0233--------------------------------------------------------------------
05477> ----------------------
05478> | CALIB NASHYD       |   Area    (ha)=    6.96   Curve Number    (CN)=32.00
05479> | 01:C201   DT= 1.00 |   Ia      (mm)=   8.000   # of Linear Res.(N)= 3.00
05480> ----------------------  U.H. Tp(hrs)=    .510
05481>
05482>      Unit Hyd Qpeak  (cms)=     .521
05483>
05484>      PEAK FLOW       (cms)=     .062 (i)
05485>      TIME TO PEAK    (hrs)=    1.733
05486>      RUNOFF VOLUME    (mm)=    4.849
05487>      TOTAL RAINFALL   (mm)=   61.643
05488>      RUNOFF COEFFICIENT   =     .079
05489>
05490>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
05491>
05492> ------------------------------------------------------------------------------
05493> 001:0234--------------------------------------------------------------------
05494> ----------------------
05495> | CALIB NASHYD       |   Area    (ha)=    2.04   Curve Number    (CN)=55.00
05496> | 02:C204   DT= 1.00 |   Ia      (mm)=   8.000   # of Linear Res.(N)= 3.00
05497> ----------------------  U.H. Tp(hrs)=    .480
05498>
05499>      Unit Hyd Qpeak  (cms)=     .162
05500>
05501>      PEAK FLOW       (cms)=     .044 (i)
05502>      TIME TO PEAK    (hrs)=    1.667
05503>      RUNOFF VOLUME    (mm)=   11.005
05504>      TOTAL RAINFALL   (mm)=   61.643
05505>      RUNOFF COEFFICIENT   =     .179
05506>
05507>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
05508>
05509> ------------------------------------------------------------------------------
05510> 001:0235--------------------------------------------------------------------
05511> ------------------------
05512> | ADD HYD (NORTH-W   ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
05513> ------------------------                   (ha)     (cms)   (hrs)   (mm)   (cms)
05514>                        ID1 01:C201          6.96     .062    1.73   4.85    .000
05515>                       +ID2 02:C204          2.04     .044    1.67  11.01    .000
05516>                        ========================================================
05517>                        SUM 03:NORTH-W       9.00     .106    1.70   6.24    .000
05518>
05519>    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
05520>
05521> ------------------------------------------------------------------------------
05522> 001:0236--------------------------------------------------------------------
05523> ----------------------
05524> | CALIB NASHYD       |   Area    (ha)=   11.96   Curve Number    (CN)=44.00
05525> | 01:C205   DT= 1.00 |   Ia      (mm)=   8.000   # of Linear Res.(N)= 3.00
05526> ----------------------  U.H. Tp(hrs)=    .870
05527>
05528>      Unit Hyd Qpeak  (cms)=     .525
05529>
05530>      PEAK FLOW       (cms)=     .118 (i)
05531>      TIME TO PEAK    (hrs)=    2.200
05532>      RUNOFF VOLUME    (mm)=    7.634
05533>      TOTAL RAINFALL   (mm)=   61.643
05534>      RUNOFF COEFFICIENT   =     .124
05535>
05536>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
05537>
05538> ------------------------------------------------------------------------------
05539> 001:0237--------------------------------------------------------------------
05540> ----------------------
05541> | CALIB STANDHYD     |   Area    (ha)=     .61
05542> | 02:C108   DT= 1.00 |   Total Imp(%)=   75.00   Dir. Conn.(%)=    1.00
05543> ----------------------
05544>                              IMPERVIOUS    PERVIOUS (i)
05545>      Surface Area     (ha)=        .46          .15
05546>      Dep. Storage     (mm)=       2.00         5.00
05547>      Average Slope     (%)=       1.00         2.00
05548>      Length            (m)=      90.00        40.00
05549>      Mannings n            =       .013         .250
05550>
05551>      Max.eff.Inten.(mm/hr)=     205.33       232.14
05552>                  over (min)        2.00         7.00
05553>      Storage Coeff.  (min)=       1.80 (ii)    6.84 (ii)
05554>      Unit Hyd. Tpeak (min)=       2.00         7.00
05555>      Unit Hyd. peak  (cms)=        .60          .16
05556>                                                          *TOTALS*
05557>      PEAK FLOW       (cms)=        .00          .07           .068 (iii)
05558>      TIME TO PEAK    (hrs)=       1.00         1.10          1.100
05559>      RUNOFF VOLUME    (mm)=      59.64        22.69         23.056
05560>      TOTAL RAINFALL   (mm)=      61.64        61.64         61.643
05561>      RUNOFF COEFFICIENT   =        .97          .37           .374
05562>
05563>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
05564>            CN* =  39.0    Ia = Dep. Storage  (Above)
05565>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
05566>            THAN THE STORAGE COEFFICIENT.
05567>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
05568>
05569> ------------------------------------------------------------------------------
05570> 001:0238--------------------------------------------------------------------
05571> ----------------------
05572> | ADD HYD (CENTER-W  ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
05573> ----------------------                     (ha)     (cms)   (hrs)   (mm)   (cms)
05574>                       ID1 01:C205          11.96     .118    2.20   7.63    .000
05575>                      +ID2 02:C108            .61     .068    1.10  23.06    .000
05576>                       ========================================================
05577>                       SUM 04:CENTER-W      12.57     .125    2.15   8.38    .000
05578>
05579>    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
05580>
05581> ------------------------------------------------------------------------------
05582> 001:0239--------------------------------------------------------------------
05583> *#################################################################################
05584> *#                          ========================================
05585> *#                           PROSPOSED ULTIMATE DEVELOPMENT CONDITIONS
05586> *#                          ========================================
05587> *#################################################################################
05588> ----------------------
05589> | CALIB STANDHYD     |   Area    (ha)=     .43
05590> | 01:B100   DT= 1.00 |   Total Imp(%)=   80.00   Dir. Conn.(%)=   60.00
05591> ----------------------
05592>                              IMPERVIOUS    PERVIOUS (i)
05593>      Surface Area     (ha)=        .34          .09
05594>      Dep. Storage     (mm)=       2.00         5.00
05595>      Average Slope     (%)=       1.00         2.00
05596>      Length            (m)=      90.00        25.00
05597>      Mannings n            =       .013         .250
05598>
05599>      Max.eff.Inten.(mm/hr)=     205.33       63.58
05600>                  over (min)        2.00         8.00
05601>      Storage Coeff.  (min)=       1.80 (ii)    8.18 (ii)
05602>      Unit Hyd. Tpeak (min)=       2.00         8.00
05603>      Unit Hyd. peak  (cms)=        .60          .14
05604>                                                          *TOTALS*
05605>      PEAK FLOW       (cms)=        .14          .01           .142 (iii)
05606>      TIME TO PEAK    (hrs)=       1.00         1.15          1.000
05607>      RUNOFF VOLUME    (mm)=      59.64        13.57         41.213
05608>      TOTAL RAINFALL   (mm)=      61.64        61.64         61.643
05609>      RUNOFF COEFFICIENT   =        .97          .22           .669
05610>
05611>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
05612>            CN* =  39.0    Ia = Dep. Storage  (Above)
05613>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
05614>            THAN THE STORAGE COEFFICIENT.
05615>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
05616>
05617> ------------------------------------------------------------------------------
05618> 001:0240--------------------------------------------------------------------
05619> ----------------------
05620> | COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .077  (cms)
05621> | TotalHyd 01:B100   |   Number of inlets in system [NINLET] =       1
05622> ----------------------   Total minor system capacity         =    .077  (cms)
05623>                          Total major system storage [TMJSTO] =       0.(cu.m.)
05624>
05625>                    ID: NHYD        AREA     QPEAK     TPEAK      R.V.      DWF
05626>                                     (ha)     (cms)     (hrs)      (mm)     (cms)
05627>      TOTAL HYD.   01:B100           .43      .142     1.000    41.213     .000
05628>      ========================================================================
05629>      MAJOR SYST   03:toCW1          .05      .065     1.000    41.213     .000
05630>      MINOR SYST   02:toSWMF         .38      .077      .950    41.213     .000
05631>
05632>      NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
05633>
05634> ------------------------------------------------------------------------------
05635> 001:0241--------------------------------------------------------------------
05636> ----------------------
05637> | CALIB STANDHYD     |   Area    (ha)=    4.00
05638> | 01:C303   DT= 1.00 |   Total Imp(%)=   40.00   Dir. Conn.(%)=   30.00
05639> ----------------------
05640>                              IMPERVIOUS    PERVIOUS (i)
05641>      Surface Area     (ha)=       1.60         2.40
05642>      Dep. Storage     (mm)=       2.00         5.00
05643>      Average Slope     (%)=       1.00         2.00
05644>      Length            (m)=      90.00        25.00
05645>      Mannings n            =       .013         .250
05646>
05647>      Max.eff.Inten.(mm/hr)=     205.33       19.29
05648>                  over (min)        2.00        12.00
05649>      Storage Coeff.  (min)=       1.80 (ii)   12.08 (ii)
05650>      Unit Hyd. Tpeak (min)=       2.00        12.00
05651>      Unit Hyd. peak  (cms)=        .60          .09
05652>                                                          *TOTALS*
05653>      PEAK FLOW       (cms)=        .64          .08           .659 (iii)
05654>      TIME TO PEAK    (hrs)=       1.00         1.25          1.000
05655>      RUNOFF VOLUME    (mm)=      59.64         8.27         23.681
05656>      TOTAL RAINFALL   (mm)=      61.64        61.64         61.643
05657>      RUNOFF COEFFICIENT   =        .97          .13           .384
05658>
05659>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
05660>            CN* =  39.0    Ia = Dep. Storage  (Above)
05661>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
05662>            THAN THE STORAGE COEFFICIENT.
05663>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
05664>
05665> ------------------------------------------------------------------------------
05666> 001:0242--------------------------------------------------------------------
05667> ----------------------
05668> | COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .440  (cms)
05669> | TotalHyd 01:C303   |   Number of inlets in system [NINLET] =       1
05670> ----------------------   Total minor system capacity         =    .440  (cms)
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                        Total major system storage [TMJSTO] =       0.(cu.m.)

                    ID: NHYD        AREA     QPEAK     TPEAK      R.V.       DWF
                                     (ha)     (cms)     (hrs)      (mm)     (cms)
     TOTAL HYD.   01:C303          4.00      .659     1.000    23.681     .000
     ==========================================================================
     MAJOR SYST   05:toCW2         .20       .219     1.000    23.681     .000
     MINOR SYST   04:toSWMF        3.80      .440      .950    23.681     .000

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
001:0243----------------------------------------------------------------------
----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.14
| 01:C309   DT= 1.00 |   Total Imp(%)=   62.00   Dir. Conn.(%)=   57.00
----------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=         .71          .43
     Dep. Storage     (mm)=        2.00         5.00
     Average Slope     (%)=        1.00         2.00
     Length            (m)=       90.00        25.00
     Mannings n          =         .013         .250

     Max.eff.Inten.(mm/hr)=     205.33        18.11
                   over (min)        2.00        12.00
     Storage Coeff.  (min)=       1.80 (ii)   12.34 (ii)
     Unit Hyd. Tpeak (min)=       2.00        12.00
     Unit Hyd. peak  (cms)=        .60          .09
                                                          *TOTALS*
     PEAK FLOW       (cms)=        .35          .01          .351 (iii)
     TIME TO PEAK    (hrs)=       1.00         1.25         1.000
     RUNOFF VOLUME    (mm)=      59.64         8.02        37.445
     TOTAL RAINFALL   (mm)=      61.64        61.64        61.643
     RUNOFF COEFFICIENT   =        .97          .13          .607

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  39.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
001:0244----------------------------------------------------------------------
----------------------
| COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .237  (cms)
| TotalHyd 01:C309   |   Number of inlets in system [NINLET] =      1
----------------------   Total minor system capacity         =    .237  (cms)
                         Total major system storage [TMJSTO] =       0.(cu.m.)

                    ID: NHYD        AREA     QPEAK     TPEAK      R.V.       DWF
                                     (ha)     (cms)     (hrs)      (mm)     (cms)
     TOTAL HYD.   01:C309          1.14      .351     1.000    37.445     .000
     ==========================================================================
     MAJOR SYST   07:toCW3         .07       .114     1.000    37.445     .000
     MINOR SYST   06:toSWMF        1.07      .237      .950    37.445     .000

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
001:0245----------------------------------------------------------------------
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .27
| 01:C308   DT= 1.00 |   Total Imp(%)=   90.00   Dir. Conn.(%)=   90.00
----------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=         .24          .03
     Dep. Storage     (mm)=        2.00         5.00
     Average Slope     (%)=        1.00         2.00
     Length            (m)=       90.00        40.00
     Mannings n          =         .013         .250

     Max.eff.Inten.(mm/hr)=     205.33        11.42
                   over (min)        2.00        19.00
     Storage Coeff.  (min)=       1.80 (ii)   18.61 (ii)
     Unit Hyd. Tpeak (min)=       2.00        19.00
     Unit Hyd. peak  (cms)=        .60          .06
                                                          *TOTALS*
     PEAK FLOW       (cms)=        .13          .00          .130 (iii)
     TIME TO PEAK    (hrs)=       1.00         1.38         1.000
     RUNOFF VOLUME    (mm)=      59.64         7.07        54.385
     TOTAL RAINFALL   (mm)=      61.64        61.64        61.643
     RUNOFF COEFFICIENT   =        .97          .11          .882

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  39.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
001:0246----------------------------------------------------------------------
----------------------
| COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .025  (cms)
| TotalHyd 01:C308   |   Number of inlets in system [NINLET] =      1
----------------------   Total minor system capacity         =    .025  (cms)
                         Total major system storage [TMJSTO] =       0.(cu.m.)

                    ID: NHYD        AREA     QPEAK     TPEAK      R.V.       DWF
                                     (ha)     (cms)     (hrs)      (mm)     (cms)
     TOTAL HYD.   01:C308          .27       .130     1.000    54.385     .000
     ==========================================================================
     MAJOR SYST   09:toCW4         .10       .105     1.000    54.385     .000
     MINOR SYST   08:toSWMF        .17       .025      .867    54.385     .000

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
001:0247----------------------------------------------------------------------
----------------------
| CALIB NASHYD       |   Area    (ha)=    9.89   Curve Number   (CN)=34.00
| 01:C304   DT= 1.00 |   Ia      (mm)=   8.000   # of Linear Res.(N)= 3.00
----------------------   U.H. Tp(hrs)=    .510

     Unit Hyd Qpeak  (cms)=     .741

     PEAK FLOW       (cms)=     .096 (i)
     TIME TO PEAK    (hrs)=    1.717
     RUNOFF VOLUME    (mm)=    5.263
     TOTAL RAINFALL   (mm)=   61.643
     RUNOFF COEFFICIENT   =     .085

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
001:0248----------------------------------------------------------------------
----------------------
| ADD HYD (CENTER-W  ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
----------------------                     (ha)     (cms)   (hrs)   (mm)    (cms)
                      ID1 01:C304          9.89     .096   1.72   5.26    .000
                     +ID2 03:toCW1          .05     .065   1.00  41.21    .000
                     +ID3 05:toCW2          .20     .219   1.00  23.68    .000
                     +ID4 07:toCW3          .07     .114   1.00  37.44    .000
                     +ID5 09:toCW4          .10     .105   1.00  54.39    .000
                      ==========================================================

                      SUM 10:CENTER-W      10.31     .506   1.00   6.47    .000

   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
001:0249----------------------------------------------------------------------
----------------------
| ROUTE RESERVOIR    |    Requested routing time step =  1.0 min.
|  IN>10:(CENTER)    |
| OUT<01:(CW-SSD)    |    =========  OUTLFOW STORAGE TABLE  =========
----------------------    OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
                            (cms)     (ha.m.)   |    (cms)    (ha.m.)
                            .000  .0000E+00     |    .222  .6400E+00
                            .000  .3700E+00     |    .000  .0000E+00

     ROUTING RESULTS           AREA     QPEAK     TPEAK       R.V.
     ---------------            (ha)     (cms)     (hrs)       (mm)
     INFLOW >10: (CENTER)      10.31      .506     1.000      6.471
     OUTFLOW<01: (CW-SSD)      10.31      .000      .000       .000
    OVERFLOW<03: (toWT1 )        .00      .000      .000       .000

                  TOTAL NUMBER OF SIMULATED OVERFLOWS  =       0
                  CUMULATIVE TIME OF OVERFLOWS  (hours)=      .00
                  PERCENTAGE OF TIME OVERFLOWING    (%)=      .00


                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=     .000
                  TIME SHIFT OF PEAK FLOW          (min)=   -60.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=.6669E-01

      *** WARNING: Outflow volume is less than inflow volume.

--------------------------------------------------------------------------------
001:0250----------------------------------------------------------------------
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .44
| 05:C207   DT= 1.00 |   Total Imp(%)=   35.00   Dir. Conn.(%)=   25.00
----------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=         .15          .29
     Dep. Storage     (mm)=        2.00         5.00
     Average Slope     (%)=        1.00         2.00
     Length            (m)=       90.00        25.00
     Mannings n          =         .013         .250

     Max.eff.Inten.(mm/hr)=     205.33        18.85
                   over (min)        2.00        12.00
     Storage Coeff.  (min)=       1.80 (ii)   12.17 (ii)
     Unit Hyd. Tpeak (min)=       2.00        12.00
     Unit Hyd. peak  (cms)=        .60          .09
                                                          *TOTALS*
     PEAK FLOW       (cms)=        .06          .01          .061 (iii)
     TIME TO PEAK    (hrs)=       1.00         1.25         1.000
     RUNOFF VOLUME    (mm)=      59.64         8.18        21.044
     TOTAL RAINFALL   (mm)=      61.64        61.64        61.643
     RUNOFF COEFFICIENT   =        .97          .13          .341

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  39.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
001:0251----------------------------------------------------------------------
----------------------
| COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .064  (cms)
| TotalHyd 05:C207   |   Number of inlets in system [NINLET] =      1
----------------------   Total minor system capacity         =    .064  (cms)
                         Total major system storage [TMJSTO] =       0.(cu.m.)

                    ID: NHYD        AREA     QPEAK     TPEAK      R.V.       DWF
                                     (ha)     (cms)     (hrs)      (mm)     (cms)
     TOTAL HYD.   05:C207          .44       .061     1.000    21.044     .000
     ==========================================================================
     MAJOR SYST   09:toET1         .00       .000      .000      .000     .000
     MINOR SYST   07:toSWMF        .44       .061     1.000    21.044     .000

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
001:0252----------------------------------------------------------------------
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .93
| 05:C208   DT= 1.00 |   Total Imp(%)=   35.00   Dir. Conn.(%)=   25.00
----------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=         .33          .60
     Dep. Storage     (mm)=        2.00         5.00
     Average Slope     (%)=        1.00         2.00
     Length            (m)=       90.00        25.00
     Mannings n          =         .013         .250

     Max.eff.Inten.(mm/hr)=     205.33        18.85
                   over (min)        2.00        12.00
     Storage Coeff.  (min)=       1.80 (ii)   12.17 (ii)
     Unit Hyd. Tpeak (min)=       2.00        12.00
     Unit Hyd. peak  (cms)=        .60          .09
                                                          *TOTALS*
     PEAK FLOW       (cms)=        .12          .02          .128 (iii)
     TIME TO PEAK    (hrs)=       1.00         1.25         1.000
     RUNOFF VOLUME    (mm)=      59.64         8.18        21.044
     TOTAL RAINFALL   (mm)=      61.64        61.64        61.643
     RUNOFF COEFFICIENT   =        .97          .13          .341

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  39.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
001:0253----------------------------------------------------------------------
----------------------
| COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .119  (cms)
| TotalHyd 05:C208   |   Number of inlets in system [NINLET] =      1
----------------------   Total minor system capacity         =    .119  (cms)
                         Total major system storage [TMJSTO] =       0.(cu.m.)

                    ID: NHYD        AREA     QPEAK     TPEAK      R.V.       DWF
                                     (ha)     (cms)     (hrs)      (mm)     (cms)
     TOTAL HYD.   05:C208          .93       .128     1.000    21.044     .000
     ==========================================================================
     MAJOR SYST   03:toET2         .00       .010     1.000    21.044     .000
     MINOR SYST   01:toSWMF        .93       .119      .983    21.044     .000

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
001:0254----------------------------------------------------------------------
----------------------
| ADD HYD (toSWMF1A  ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
----------------------                     (ha)     (cms)   (hrs)   (mm)    (cms)
                      ID1 01:toSWMF6       .93      .119    .98   21.04    .000
                     +ID2 02:toSWMF1       .38      .077    .95   41.21    .000
                     +ID3 04:toSWMF2      3.80      .440    .95   23.68    .000
```

```
                    +ID4 06:toSWMF3        1.07     .237     .95  37.44    .000
                    +ID5 07:toSWMF5         .44     .061    1.00  21.04    .000
                    +ID6 08:toSWMF4         .17     .025     .87  54.39    .000
                     ============================================================
                     SUM 05:toSWMF1A       6.79     .959    1.00  27.09    .000

   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
001:0255--------------------------------------------------------------------------
----------------------
| CALIB STANDHYD     |   Area    (ha)=   12.10
| 01:C302   DT= 1.00 |   Total Imp(%)=   41.00   Dir. Conn.(%)=   31.00
----------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       4.96         7.14
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      90.00        25.00
     Mannings n            =       .013         .250

     Max.eff.Inten.(mm/hr)=     205.33        19.39
               over (min)        2.00        12.00
     Storage Coeff.  (min)=       1.80 (ii)   12.06 (ii)
     Unit Hyd. Tpeak (min)=       2.00        12.00
     Unit Hyd. peak  (cms)=        .60          .09
                                                        *TOTALS*
     PEAK FLOW       (cms)=       2.01          .23        2.059 (iii)
     TIME TO PEAK    (hrs)=       1.00         1.25        1.000
     RUNOFF VOLUME    (mm)=      59.64         8.29       24.208
     TOTAL RAINFALL   (mm)=      61.64        61.64       61.643
     RUNOFF COEFFICIENT   =        .97          .13         .393

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  39.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
001:0256--------------------------------------------------------------------------
----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.29
| 02:C203   DT= 1.00 |   Total Imp(%)=   68.00   Dir. Conn.(%)=   66.00
----------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .88          .41
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=        .50         2.00
     Length            (m)=     100.00       100.00
     Mannings n            =       .013         .250

     Max.eff.Inten.(mm/hr)=     205.33         9.25
               over (min)        2.00        34.00
     Storage Coeff.  (min)=       2.36 (ii)   34.06 (ii)
     Unit Hyd. Tpeak (min)=       2.00        34.00
     Unit Hyd. peak  (cms)=        .50          .03
                                                        *TOTALS*
     PEAK FLOW       (cms)=        .43          .01         .435 (iii)
     TIME TO PEAK    (hrs)=       1.00         1.67        1.000
     RUNOFF VOLUME    (mm)=      59.64         7.52       41.922
     TOTAL RAINFALL   (mm)=      61.64        61.64       61.643
     RUNOFF COEFFICIENT   =        .97          .12         .680

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  39.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
001:0257--------------------------------------------------------------------------
----------------------
| ADD HYD (toSWMF2A  ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
----------------------                    (ha)     (cms)   (hrs)   (mm)    (cms)
                       ID1 01:C302         12.10    2.059    1.00  24.21    .000
                      +ID2 02:C203          1.29     .435    1.00  41.92    .000
                      +ID3 05:toSWMF1A      6.79     .959    1.00  27.09    .000
                       ============================================================
                       SUM 04:toSWMF2A     20.18    3.452    1.00  26.31    .000

   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
001:0258--------------------------------------------------------------------------
----------------------
| ROUTE RESERVOIR    |    Requested routing time step =  1.0 min.
|  IN>04:(toSWMF)    |
| OUT<01:(SWMF  )    |    =========  OUTLFOW STORAGE TABLE  =========
----------------------    OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
                            (cms)     (ha.m.)   |    (cms)     (ha.m.)
                            .000  .0000E+00     |     .340  .2740E+00
                            .011  .2900E-01     |     .697  .3140E+00
                            .015  .6000E-01     |    1.206  .3540E+00
                            .019  .9200E-01     |    1.880  .3960E+00
                            .022  .1260E+00     |    2.734  .4380E+00
                            .024  .1610E+00     |    3.779  .4820E+00
                            .027  .1980E+00     |    5.029  .5260E+00
                            .120  .2360E+00     |     .000  .0000E+00

     ROUTING RESULTS            AREA     QPEAK     TPEAK       R.V.
     ---------------------       (ha)     (cms)     (hrs)       (mm)
     INFLOW >04: (toSWMF)      20.18     3.452     1.000     26.309
     OUTFLOW<01: (SWMF  )      20.18      .684     1.433     26.309
    OVERFLOW<02: (OverQ )        .00      .000      .000       .000

                    TOTAL NUMBER OF SIMULATED OVERFLOWS  =        0
                    CUMULATIVE TIME OF OVERFLOWS  (hours)=      .00
                    PERCENTAGE OF TIME OVERFLOWING    (%)=      .00


                    PEAK   FLOW   REDUCTION [Qout/Qin](%)=   19.810
                    TIME SHIFT OF PEAK FLOW         (min)=    26.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=.3125E+00

--------------------------------------------------------------------------------
001:0259--------------------------------------------------------------------------
----------------------
| CALIB STANDHYD     |   Area    (ha)=   18.54
| 04:EX-2   DT= 1.00 |   Total Imp(%)=   35.00   Dir. Conn.(%)=   25.00
----------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       6.49        12.05
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      90.00        50.00
     Mannings n            =       .013         .250

     Max.eff.Inten.(mm/hr)=     205.33        15.34
               over (min)        2.00        19.00
     Storage Coeff.  (min)=       1.80 (ii)   18.88 (ii)
     Unit Hyd. Tpeak (min)=       2.00        19.00
     Unit Hyd. peak  (cms)=        .60          .06
                                                        *TOTALS*
     PEAK FLOW       (cms)=       2.49          .30        2.518 (iii)
     TIME TO PEAK    (hrs)=       1.00         1.38        1.000
     RUNOFF VOLUME    (mm)=      59.64         8.18       21.044
     TOTAL RAINFALL   (mm)=      61.64        61.64       61.643
     RUNOFF COEFFICIENT   =        .97          .13         .341

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  39.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
001:0260--------------------------------------------------------------------------
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .51
| 05:C209   DT= 1.00 |   Total Imp(%)=   61.00   Dir. Conn.(%)=   55.00
----------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .31          .20
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      90.00        10.00
     Mannings n            =       .013         .250

     Max.eff.Inten.(mm/hr)=     205.33        21.79
               over (min)        2.00         7.00
     Storage Coeff.  (min)=       1.80 (ii)    7.45 (ii)
     Unit Hyd. Tpeak (min)=       2.00         7.00
     Unit Hyd. peak  (cms)=        .60          .16
                                                        *TOTALS*
     PEAK FLOW       (cms)=        .15          .01         .154 (iii)
     TIME TO PEAK    (hrs)=       1.00         1.15        1.000
     RUNOFF VOLUME    (mm)=      59.64         8.18       36.483
     TOTAL RAINFALL   (mm)=      61.64        61.64       61.643
     RUNOFF COEFFICIENT   =        .97          .13         .592

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  39.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
001:0261--------------------------------------------------------------------------
----------------------
| COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .109  (cms)
| TotalHyd 05:C209   |   Number of inlets in system [NINLET] =      1
----------------------   Total minor system capacity          =    .109  (cms)
                         Total major system storage [TMJSTO] =      0.(cu.m.)

                    ID: NHYD        AREA     QPEAK     TPEAK     R.V.      DWF
                                    (ha)     (cms)     (hrs)     (mm)     (cms)
     TOTAL HYD.   05:C209           .51      .154     1.000    36.483     .000
     ============================================================================
     MAJOR SYST   07:toET3          .02      .044     1.000    36.483     .000
     MINOR SYST   06:toWT2          .49      .109      .950    36.483     .000

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
001:0262--------------------------------------------------------------------------
----------------------
| ADD HYD (EAST-T    ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
----------------------                    (ha)     (cms)   (hrs)   (mm)    (cms)
                       ID1 01:SWMF         20.18     .684    1.43  26.31    .000
                      +ID2 02:OverQ          .00     .000     .00    .00    .000
                      +ID3 03:toET2          .00     .010    1.00  21.04    .000
                      +ID4 04:EX-2         18.54    2.518    1.00  21.04    .000
                      +ID5 07:toET3          .02     .044    1.00  36.48    .000
                      +ID6 09:toET1          .00     .000     .00    .00    .000
                       ============================================================
                       SUM 05:EAST-T       38.75    2.596    1.00  23.80    .000

   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
001:0263--------------------------------------------------------------------------
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .39
| 01:C210   DT= 1.00 |   Total Imp(%)=   90.00   Dir. Conn.(%)=   90.00
----------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .35          .04
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      90.00        10.00
     Mannings n            =       .013         .250

     Max.eff.Inten.(mm/hr)=     205.33        15.80
               over (min)        2.00         8.00
     Storage Coeff.  (min)=       1.80 (ii)    8.22 (ii)
     Unit Hyd. Tpeak (min)=       2.00         8.00
     Unit Hyd. peak  (cms)=        .60          .14
                                                        *TOTALS*
     PEAK FLOW       (cms)=        .19          .00         .189 (iii)
     TIME TO PEAK    (hrs)=       1.00         1.17        1.000
     RUNOFF VOLUME    (mm)=      59.64         7.07       54.385
     TOTAL RAINFALL   (mm)=      61.64        61.64       61.643
     RUNOFF COEFFICIENT   =        .97          .11         .882

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  39.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
001:0264--------------------------------------------------------------------------
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .27
| 02:C307   DT= 1.00 |   Total Imp(%)=   90.00   Dir. Conn.(%)=    1.00
----------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .24          .03
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      90.00        10.00
     Mannings n            =       .013         .250

     Max.eff.Inten.(mm/hr)=     205.33      1279.64
               over (min)        2.00         3.00
     Storage Coeff.  (min)=       1.80 (ii)    2.91 (ii)
     Unit Hyd. Tpeak (min)=       2.00         3.00
     Unit Hyd. peak  (cms)=        .60          .38
                                                        *TOTALS*
     PEAK FLOW       (cms)=        .00          .07         .075 (iii)
     TIME TO PEAK    (hrs)=       1.00         1.02        1.017
     RUNOFF VOLUME    (mm)=      59.64        36.91       37.138
     TOTAL RAINFALL   (mm)=      61.64        61.64       61.643
     RUNOFF COEFFICIENT   =        .97          .60         .602

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  39.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
```

```
06211>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
06212>
06213> -------------------------------------------------------------------------------
06214> 001:0265-------------------------------------------------------------------------
06215> ----------------------
06216> | CALIB STANDHYD     |   Area    (ha)=    2.61
06217> | 03:C305   DT= 1.00 |   Total Imp(%)=   76.00   Dir. Conn.(%)=   57.00
06218> ----------------------
06219>                              IMPERVIOUS    PERVIOUS (i)
06220>      Surface Area     (ha)=       1.98         .63
06221>      Dep. Storage     (mm)=       2.00        5.00
06222>      Average Slope     (%)=       1.00        2.00
06223>      Length            (m)=      90.00       25.00
06224>      Mannings n            =       .013        .250
06225>
06226>      Max.eff.Inten.(mm/hr)=     205.33       50.57
06227>                 over (min)        2.00        9.00
06228>      Storage Coeff.  (min)=       1.80 (ii)   8.79 (ii)
06229>      Unit Hyd. Tpeak (min)=       2.00        9.00
06230>      Unit Hyd. peak  (cms)=        .60         .13
06231>                                                      *TOTALS*
06232>      PEAK FLOW       (cms)=        .80         .06         .816 (iii)
06233>      TIME TO PEAK    (hrs)=       1.00        1.17        1.000
06234>      RUNOFF VOLUME    (mm)=      59.64       12.34       39.304
06235>      TOTAL RAINFALL   (mm)=      61.64       61.64       61.643
06236>      RUNOFF COEFFICIENT   =        .97         .20         .638
06237>
06238>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
06239>            CN* =  39.0    Ia = Dep. Storage  (Above)
06240>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
06241>            THAN THE STORAGE COEFFICIENT.
06242>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
06243>
06244> -------------------------------------------------------------------------------
06245> 001:0266-------------------------------------------------------------------------
06246> ----------------------
06247> | COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .030  (cms)
06248> | TotalHyd 03:C305   |   Number of inlets in system [NINLET] =       1
06249> ----------------------   Total minor system capacity         =    .030  (cms)
06250>                          Total major system storage [TMJSTO] =    730.(cu.m.)
06251>
06252>                  ID: NHYD        AREA     QPEAK     TPEAK     R.V.      DWF
06253>                                   (ha)     (cms)     (hrs)     (mm)     (cms)
06254>      TOTAL HYD.   03:C305         2.61      .816     1.000   39.304     .000
06255>      ================================================================
06256>      MAJOR SYST   07:toWT3         .07      .030     1.733   39.304     .000
06257>      MINOR SYST   04:toPD         2.54      .030      .500   39.333     .000
06258>
06259>      NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
06260>
06261>      Maximum MAJOR SYSTEM storage used =     730.(cu.m.)
06262>
06263> -------------------------------------------------------------------------------
06264> 001:0267-------------------------------------------------------------------------
06265> ----------------------
06266> | CALIB NASHYD       |   Area    (ha)=    1.77   Curve Number    (CN)=36.00
06267> | 03:C306   DT= 1.00 |   Ia      (mm)=   8.000   # of Linear Res.(N)= 3.00
06268> ----------------------   U.H. Tp(hrs)=    .580
06269>
06270>      Unit Hyd Qpeak  (cms)=     .117
06271>
06272>      PEAK FLOW       (cms)=     .017 (i)
06273>      TIME TO PEAK    (hrs)=    1.817
06274>      RUNOFF VOLUME    (mm)=    5.696
06275>      TOTAL RAINFALL   (mm)=   61.643
06276>      RUNOFF COEFFICIENT   =     .092
06277>
06278>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
06279>
06280> -------------------------------------------------------------------------------
06281> 001:0268-------------------------------------------------------------------------
06282> ------------------------
06283> | ADD HYD (WEST-T    ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
06284> ------------------------                   (ha)     (cms)   (hrs)   (mm)   (cms)
06285>                        ID1 01:C210          .39      .189    1.00  54.39    .000
06286>                       +ID2 02:C307          .27      .075    1.02  37.14    .000
06287>                       +ID3 03:C306         1.77      .017    1.82   5.70    .000
06288>                       +ID4 04:toPD         2.54      .030     .50  39.33    .000
06289>                       +ID5 06:toWT2         .49      .109     .95  36.48    .000
06290>                       +ID6 07:toWT3         .07      .030    1.73  39.30    .000
06291>                        ========================================================
06292>                        SUM 08:WEST-T        5.53      .399    1.00  29.26    .000
06293>
06294>    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
06295>
06296> -------------------------------------------------------------------------------
06297> 001:0269-------------------------------------------------------------------------
06298> ----------------------
06299> | CALIB NASHYD       |   Area    (ha)=    7.88   Curve Number    (CN)=32.00
06300> | 01:C301   DT= 1.00 |   Ia      (mm)=   8.000   # of Linear Res.(N)= 3.00
06301> ----------------------   U.H. Tp(hrs)=    .510
06302>
06303>      Unit Hyd Qpeak  (cms)=     .590
06304>
06305>      PEAK FLOW       (cms)=     .071 (i)
06306>      TIME TO PEAK    (hrs)=    1.733
06307>      RUNOFF VOLUME    (mm)=    4.849
06308>      TOTAL RAINFALL   (mm)=   61.643
06309>      RUNOFF COEFFICIENT   =     .079
06310>
06311>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
06312>
06313> -------------------------------------------------------------------------------
06314> 001:0270-------------------------------------------------------------------------
06315> *#*************************************************************************
06316> *#
06317> *#                                    50-year
06318> *#                                    =======
06319> *#
06320> *#*************************************************************************
06321> ---------------------
06322> | CHICAGO STORM    |    IDF curve parameters: A=2225.884
06323> | Ptotal= 69.59 mm |                          B=   8.620
06324> ---------------------                       C=    .871
06325>                          used in:   INTENSITY =  A / (t + B)^C
06326>
06327>                          Duration of storm  =  3.00 hrs
06328>                          Storm time step    =  5.00 min
06329>                          Time to peak ratio =   .33
06330>
06331>              TIME    RAIN |  TIME    RAIN |  TIME    RAIN |  TIME    RAIN
06332>               hrs   mm/hr |   hrs   mm/hr |   hrs   mm/hr |   hrs   mm/hr
06333>               .08   4.324 |   .83  33.634 |  1.58  15.280 |  2.33   6.033
06334>               .17   4.798 |   .92  83.173 |  1.67  13.118 |  2.42   5.647
06335>               .25   5.392 |  1.00 228.894 |  1.75  11.471 |  2.50   5.308
06336>               .33   6.155 |  1.08 107.905 |  1.83  10.179 |  2.58   5.008
06337>               .42   7.169 |  1.17  59.542 |  1.92   9.141 |  2.67   4.740
06338>               .50   8.577 |  1.25  39.395 |  2.00   8.291 |  2.75   4.500
06339>               .58  10.652 |  1.33  28.800 |  2.08   7.583 |  2.83   4.283
06340>               .67  13.974 |  1.42  22.420 |  2.17   6.986 |  2.92   4.087
06341>               .75  20.011 |  1.50  18.223 |  2.25   6.474 |  3.00   3.908
06342>
06343> -------------------------------------------------------------------------------
06344> 001:0271-------------------------------------------------------------------------
06345> *#*************************************************************************
06346> *#                                    ====================
06347> *#                                     EXISTING CONDITIONS
06348> *#                                    ====================
06349> *#*************************************************************************
06350> ----------------------
06351> | CALIB STANDHYD     |   Area    (ha)=   18.54
06352> | 01:EX-1   DT= 1.00 |   Total Imp(%)=   35.00   Dir. Conn.(%)=   25.00
06353> ----------------------
06354>                              IMPERVIOUS    PERVIOUS (i)
06355>      Surface Area     (ha)=       6.49        12.05
06356>      Dep. Storage     (mm)=       2.00         5.00
06357>      Average Slope     (%)=       1.00         2.00
06358>      Length            (m)=      90.00        50.00
06359>      Mannings n            =       .013         .250
06360>
06361>      Max.eff.Inten.(mm/hr)=     228.89        20.84
06362>                 over (min)        2.00        17.00
06363>      Storage Coeff.  (min)=       1.72 (ii)   16.83 (ii)
06364>      Unit Hyd. Tpeak (min)=       2.00        17.00
06365>      Unit Hyd. peak  (cms)=        .61          .07
06366>                                                      *TOTALS*
06367>      PEAK FLOW       (cms)=       2.79          .41        2.844 (iii)
06368>      TIME TO PEAK    (hrs)=       1.00         1.33        1.000
06369>      RUNOFF VOLUME    (mm)=      67.59        10.40       24.695
06370>      TOTAL RAINFALL   (mm)=      69.59        69.59       69.590
06371>      RUNOFF COEFFICIENT   =        .97          .15         .355
06372>
06373>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
06374>            CN* =  39.0    Ia = Dep. Storage  (Above)
06375>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
06376>            THAN THE STORAGE COEFFICIENT.
06377>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
06378>
06379> -------------------------------------------------------------------------------
06380> 001:0272-------------------------------------------------------------------------
06381> ----------------------
06382> | CALIB NASHYD       |   Area    (ha)=    9.06   Curve Number    (CN)=40.00
06383> | 02:C101   DT= 1.00 |   Ia      (mm)=   8.000   # of Linear Res.(N)= 3.00
06384> ----------------------   U.H. Tp(hrs)=    .510
06385>
06386>      Unit Hyd Qpeak  (cms)=     .679
06387>
06388>      PEAK FLOW       (cms)=     .147 (i)
06389>      TIME TO PEAK    (hrs)=    1.717
06390>      RUNOFF VOLUME    (mm)=    8.571
06391>      TOTAL RAINFALL   (mm)=   69.590
06392>      RUNOFF COEFFICIENT   =     .123
06393>
06394>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
06395>
06396> -------------------------------------------------------------------------------
06397> 001:0273-------------------------------------------------------------------------
06398> ----------------------
06399> | CALIB NASHYD       |   Area    (ha)=   13.09   Curve Number    (CN)=47.00
06400> | 03:C102   DT= 1.00 |   Ia      (mm)=   8.000   # of Linear Res.(N)= 3.00
06401> ----------------------   U.H. Tp(hrs)=    .850
06402>
06403>      Unit Hyd Qpeak  (cms)=     .588
06404>
06405>      PEAK FLOW       (cms)=     .190 (i)
06406>      TIME TO PEAK    (hrs)=    2.150
06407>      RUNOFF VOLUME    (mm)=   10.900
06408>      TOTAL RAINFALL   (mm)=   69.590
06409>      RUNOFF COEFFICIENT   =     .157
06410>
06411>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
06412>
06413> -------------------------------------------------------------------------------
06414> 001:0274-------------------------------------------------------------------------
06415> ----------------------
06416> | CALIB STANDHYD     |   Area    (ha)=     .61
06417> | 04:C108   DT= 1.00 |   Total Imp(%)=   75.00   Dir. Conn.(%)=    1.00
06418> ----------------------
06419>                              IMPERVIOUS    PERVIOUS (i)
06420>      Surface Area     (ha)=        .46          .15
06421>      Dep. Storage     (mm)=       2.00         5.00
06422>      Average Slope     (%)=       1.00         2.00
06423>      Length            (m)=      90.00        40.00
06424>      Mannings n            =       .013         .250
06425>
06426>      Max.eff.Inten.(mm/hr)=     228.89       298.81
06427>                 over (min)        2.00         6.00
06428>      Storage Coeff.  (min)=       1.72 (ii)    6.28 (ii)
06429>      Unit Hyd. Tpeak (min)=       2.00         6.00
06430>      Unit Hyd. peak  (cms)=        .61          .18
06431>                                                      *TOTALS*
06432>      PEAK FLOW       (cms)=        .00          .09          .087 (iii)
06433>      TIME TO PEAK    (hrs)=       1.00         1.08         1.083
06434>      RUNOFF VOLUME    (mm)=      67.59        27.68        28.081
06435>      TOTAL RAINFALL   (mm)=      69.59        69.59        69.590
06436>      RUNOFF COEFFICIENT   =        .97          .40          .404
06437>
06438>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
06439>            CN* =  39.0    Ia = Dep. Storage  (Above)
06440>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
06441>            THAN THE STORAGE COEFFICIENT.
06442>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
06443>
06444> -------------------------------------------------------------------------------
06445> 001:0275-------------------------------------------------------------------------
06446> ------------------------
06447> | ADD HYD (CENTER-W  ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
06448> ------------------------                   (ha)     (cms)   (hrs)   (mm)   (cms)
06449>                        ID1 03:C102         13.09      .190    2.15  10.90    .000
06450>                       +ID2 04:C108           .61      .087    1.08  28.08    .000
06451>                        ========================================================
06452>                        SUM 05:CENTER-W     13.70      .199    2.12  11.66    .000
06453>
06454>    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
06455>
06456> -------------------------------------------------------------------------------
06457> 001:0276-------------------------------------------------------------------------
06458> ----------------------
06459> | CALIB NASHYD       |   Area    (ha)=    9.17   Curve Number    (CN)=64.00
06460> | 03:C104   DT= 1.00 |   Ia      (mm)=   8.000   # of Linear Res.(N)= 3.00
06461> ----------------------   U.H. Tp(hrs)=    .590
06462>
06463>      Unit Hyd Qpeak  (cms)=     .594
06464>
06465>      PEAK FLOW       (cms)=     .298 (i)
06466>      TIME TO PEAK    (hrs)=    1.800
06467>      RUNOFF VOLUME    (mm)=   18.552
06468>      TOTAL RAINFALL   (mm)=   69.590
06469>      RUNOFF COEFFICIENT   =     .267
06470>
06471>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
06472>
06473> -------------------------------------------------------------------------------
06474> 001:0277-------------------------------------------------------------------------
06475> ----------------------
06476> | CALIB STANDHYD     |   Area    (ha)=    1.63
06477> | 04:C105   DT= 1.00 |   Total Imp(%)=   56.00   Dir. Conn.(%)=   50.00
06478> ----------------------
06479>                              IMPERVIOUS    PERVIOUS (i)
06480>      Surface Area     (ha)=        .91          .72
```

```
06481>      Dep. Storage     (mm)=       2.00         5.00
06482>      Average Slope     (%)=       1.00         2.00
06483>      Length            (m)=      90.00        40.00
06484>      Mannings n             =       .013         .250
06485>
06486>      Max.eff.Inten.(mm/hr)=     228.89        21.60
06487>                   over (min)        2.00        15.00
06488>      Storage Coeff.  (min)=       1.72 (ii)   14.75 (ii)
06489>      Unit Hyd. Tpeak (min)=       2.00        15.00
06490>      Unit Hyd. peak  (cms)=        .61          .08
06491>                                                          *TOTALS*
06492>      PEAK FLOW       (cms)=        .49          .03          .495 (iii)
06493>      TIME TO PEAK    (hrs)=       1.00         1.30         1.000
06494>      RUNOFF VOLUME    (mm)=      67.59        10.24        38.917
06495>      TOTAL RAINFALL   (mm)=      69.59        69.59        69.590
06496>      RUNOFF COEFFICIENT   =        .97          .15          .559
06497>
06498>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
06499>            CN* =  39.0    Ia = Dep. Storage  (Above)
06500>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
06501>            THAN THE STORAGE COEFFICIENT.
06502>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
06503>
06504> ------------------------------------------------------------------------------
06505> 001:0278------------------------------------------------------------------------
06506> ----------------------
06507> | ADD HYD (EAST-T    ) | ID: NHYD          AREA     QPEAK   TPEAK   R.V.    DWF
06508> ----------------------                     (ha)     (cms)   (hrs)   (mm)   (cms)
06509>                       ID1 01:EX-1          18.54    2.844    1.00  24.70    .000
06510>                      +ID2 03:C104           9.17     .298    1.80  18.55    .000
06511>                      +ID3 04:C105           1.63     .495    1.00  38.92    .000
06512>                       ============================================================
06513>                       SUM 06:EAST-T        29.34    3.346    1.00  23.57    .000
06514>
06515>    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
06516>
06517> ------------------------------------------------------------------------------
06518> 001:0279------------------------------------------------------------------------
06519> ----------------------
06520> | CALIB NASHYD       |   Area    (ha)=    8.73   Curve Number    (CN)=62.00
06521> | 01:C103   DT= 1.00 |   Ia      (mm)=   8.000   # of Linear Res.(N)= 3.00
06522> ----------------------  U.H. Tp(hrs)=    .540
06523>
06524>      Unit Hyd Qpeak  (cms)=     .617
06525>
06526>      PEAK FLOW       (cms)=     .283 (i)
06527>      TIME TO PEAK    (hrs)=    1.733
06528>      RUNOFF VOLUME    (mm)=   17.459
06529>      TOTAL RAINFALL   (mm)=   69.590
06530>      RUNOFF COEFFICIENT   =     .251
06531>
06532>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
06533>
06534> ------------------------------------------------------------------------------
06535> 001:0280------------------------------------------------------------------------
06536> ----------------------
06537> | CALIB STANDHYD     |   Area    (ha)=     .47
06538> | 03:C106   DT= 1.00 |   Total Imp(%)=   75.00   Dir. Conn.(%)=    1.00
06539> ----------------------
06540>                              IMPERVIOUS    PERVIOUS (i)
06541>      Surface Area     (ha)=        .35          .12
06542>      Dep. Storage     (mm)=       2.00         5.00
06543>      Average Slope     (%)=       1.00         2.00
06544>      Length            (m)=      90.00        40.00
06545>      Mannings n             =       .013         .250
06546>
06547>      Max.eff.Inten.(mm/hr)=     228.89       298.81
06548>                   over (min)        2.00         6.00
06549>      Storage Coeff.  (min)=       1.72 (ii)    6.28 (ii)
06550>      Unit Hyd. Tpeak (min)=       2.00         6.00
06551>      Unit Hyd. peak  (cms)=        .61          .18
06552>                                                          *TOTALS*
06553>      PEAK FLOW       (cms)=        .00          .07          .067 (iii)
06554>      TIME TO PEAK    (hrs)=       1.00         1.08         1.083
06555>      RUNOFF VOLUME    (mm)=      67.59        27.68        28.081
06556>      TOTAL RAINFALL   (mm)=      69.59        69.59        69.590
06557>      RUNOFF COEFFICIENT   =        .97          .40          .404
06558>
06559>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
06560>            CN* =  39.0    Ia = Dep. Storage  (Above)
06561>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
06562>            THAN THE STORAGE COEFFICIENT.
06563>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
06564>
06565> ------------------------------------------------------------------------------
06566> 001:0281------------------------------------------------------------------------
06567> ----------------------
06568> | CALIB STANDHYD     |   Area    (ha)=     .54
06569> | 04:C107   DT= 1.00 |   Total Imp(%)=   75.00   Dir. Conn.(%)=    1.00
06570> ----------------------
06571>                              IMPERVIOUS    PERVIOUS (i)
06572>      Surface Area     (ha)=        .41          .14
06573>      Dep. Storage     (mm)=       2.00         5.00
06574>      Average Slope     (%)=       1.00         2.00
06575>      Length            (m)=      90.00        40.00
06576>      Mannings n             =       .013         .250
06577>
06578>      Max.eff.Inten.(mm/hr)=     228.89       298.81
06579>                   over (min)        2.00         6.00
06580>      Storage Coeff.  (min)=       1.72 (ii)    6.28 (ii)
06581>      Unit Hyd. Tpeak (min)=       2.00         6.00
06582>      Unit Hyd. peak  (cms)=        .61          .18
06583>                                                          *TOTALS*
06584>      PEAK FLOW       (cms)=        .00          .08          .077 (iii)
06585>      TIME TO PEAK    (hrs)=       1.00         1.08         1.083
06586>      RUNOFF VOLUME    (mm)=      67.59        27.68        28.081
06587>      TOTAL RAINFALL   (mm)=      69.59        69.59        69.590
06588>      RUNOFF COEFFICIENT   =        .97          .40          .404
06589>
06590>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
06591>            CN* =  39.0    Ia = Dep. Storage  (Above)
06592>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
06593>            THAN THE STORAGE COEFFICIENT.
06594>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
06595>
06596> ------------------------------------------------------------------------------
06597> 001:0282------------------------------------------------------------------------
06598> ----------------------
06599> | ADD HYD (WEST-T    ) | ID: NHYD          AREA     QPEAK   TPEAK   R.V.    DWF
06600> ----------------------                     (ha)     (cms)   (hrs)   (mm)   (cms)
06601>                       ID1 01:C103           8.73     .283    1.73  17.46    .000
06602>                      +ID2 03:C106            .47     .067    1.08  28.08    .000
06603>                      +ID3 04:C107            .54     .077    1.08  28.08    .000
06604>                       ============================================================
06605>                       SUM 07:WEST-T         9.74     .310    1.68  18.56    .000
06606>
06607>    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
06608>
06609> ------------------------------------------------------------------------------
06610> 001:0283------------------------------------------------------------------------
06611> ----------------------
06612> | CALIB STANDHYD     |   Area    (ha)=     .17
06613> | 01:C109   DT= 1.00 |   Total Imp(%)=   75.00   Dir. Conn.(%)=    1.00
06614> ----------------------
06615>                              IMPERVIOUS    PERVIOUS (i)
06616>      Surface Area     (ha)=        .13          .04
06617>      Dep. Storage     (mm)=       2.00         5.00
06618>      Average Slope     (%)=       1.00         2.00
06619>      Length            (m)=      90.00        40.00
06620>      Mannings n             =       .013         .250
06621>
06622>      Max.eff.Inten.(mm/hr)=     228.89       298.81
06623>                   over (min)        2.00         6.00
06624>      Storage Coeff.  (min)=       1.72 (ii)    6.28 (ii)
06625>      Unit Hyd. Tpeak (min)=       2.00         6.00
06626>      Unit Hyd. peak  (cms)=        .61          .18
06627>                                                          *TOTALS*
06628>      PEAK FLOW       (cms)=        .00          .02          .024 (iii)
06629>      TIME TO PEAK    (hrs)=       1.00         1.08         1.083
06630>      RUNOFF VOLUME    (mm)=      67.59        27.68        28.081
06631>      TOTAL RAINFALL   (mm)=      69.59        69.59        69.590
06632>      RUNOFF COEFFICIENT   =        .97          .40          .404
06633>
06634>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
06635>            CN* =  39.0    Ia = Dep. Storage  (Above)
06636>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
06637>            THAN THE STORAGE COEFFICIENT.
06638>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
06639>
06640> ------------------------------------------------------------------------------
06641> 001:0284------------------------------------------------------------------------
06642> *#############################################################################
06643> *#                          ========================================
06644> *#                           PROSPOSED INTERIM DEVELOPMENT CONDITIONS
06645> *#                          ========================================
06646> *#############################################################################
06647> ----------------------
06648> | CALIB STANDHYD     |   Area    (ha)=    9.66
06649> | 01:C202   DT= 1.00 |   Total Imp(%)=   40.00   Dir. Conn.(%)=   30.00
06650> ----------------------
06651>                              IMPERVIOUS    PERVIOUS (i)
06652>      Surface Area     (ha)=       3.86         5.80
06653>      Dep. Storage     (mm)=       2.00         5.00
06654>      Average Slope     (%)=       1.00         2.00
06655>      Length            (m)=      90.00        25.00
06656>      Mannings n             =       .013         .250
06657>
06658>      Max.eff.Inten.(mm/hr)=     228.89        25.69
06659>                   over (min)        2.00        11.00
06660>      Storage Coeff.  (min)=       1.72 (ii)   10.89 (ii)
06661>      Unit Hyd. Tpeak (min)=       2.00        11.00
06662>      Unit Hyd. peak  (cms)=        .61          .10
06663>                                                          *TOTALS*
06664>      PEAK FLOW       (cms)=       1.75          .26         1.804 (iii)
06665>      TIME TO PEAK    (hrs)=       1.00         1.22         1.000
06666>      RUNOFF VOLUME    (mm)=      67.59        10.51        27.633
06667>      TOTAL RAINFALL   (mm)=      69.59        69.59        69.590
06668>      RUNOFF COEFFICIENT   =        .97          .15          .397
06669>
06670>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
06671>            CN* =  39.0    Ia = Dep. Storage  (Above)
06672>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
06673>            THAN THE STORAGE COEFFICIENT.
06674>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
06675>
06676> ------------------------------------------------------------------------------
06677> 001:0285------------------------------------------------------------------------
06678> ----------------------
06679> | CALIB STANDHYD     |   Area    (ha)=     .44
06680> | 02:C207   DT= 1.00 |   Total Imp(%)=   35.00   Dir. Conn.(%)=   25.00
06681> ----------------------
06682>                              IMPERVIOUS    PERVIOUS (i)
06683>      Surface Area     (ha)=        .15          .29
06684>      Dep. Storage     (mm)=       2.00         5.00
06685>      Average Slope     (%)=       1.00         2.00
06686>      Length            (m)=      90.00        25.00
06687>      Mannings n             =       .013         .250
06688>
06689>      Max.eff.Inten.(mm/hr)=     228.89        25.12
06690>                   over (min)        2.00        11.00
06691>      Storage Coeff.  (min)=       1.72 (ii)   10.97 (ii)
06692>      Unit Hyd. Tpeak (min)=       2.00        11.00
06693>      Unit Hyd. peak  (cms)=        .61          .10
06694>                                                          *TOTALS*
06695>      PEAK FLOW       (cms)=        .07          .01          .069 (iii)
06696>      TIME TO PEAK    (hrs)=       1.00         1.22         1.000
06697>      RUNOFF VOLUME    (mm)=      67.59        10.40        24.695
06698>      TOTAL RAINFALL   (mm)=      69.59        69.59        69.590
06699>      RUNOFF COEFFICIENT   =        .97          .15          .355
06700>
06701>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
06702>            CN* =  39.0    Ia = Dep. Storage  (Above)
06703>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
06704>            THAN THE STORAGE COEFFICIENT.
06705>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
06706>
06707> ------------------------------------------------------------------------------
06708> 001:0286------------------------------------------------------------------------
06709> ----------------------
06710> | COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .064  (cms)
06711> | TotalHyd 02:C207   |   Number of inlets in system [NINLET] =       1
06712> ----------------------   Total minor system capacity         =    .064  (cms)
06713>                          Total major system storage [TMJSTO] =       0.(cu.m.)
06714>
06715>                    ID: NHYD        AREA     QPEAK     TPEAK     R.V.      DWF
06716>                                    (ha)     (cms)     (hrs)     (mm)     (cms)
06717>      TOTAL HYD.   02:C207          .44      .069     1.000   24.695     .000
06718>      ============================================================================
06719>      MAJOR SYST   04:toET1         .00      .005     1.000   24.695     .000
06720>      MINOR SYST   03:toSWMF        .44      .064      .983   24.695     .000
06721>
06722>      NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
06723>
06724> ------------------------------------------------------------------------------
06725> 001:0287------------------------------------------------------------------------
06726> ----------------------
06727> | CALIB STANDHYD     |   Area    (ha)=     .93
06728> | 02:C208   DT= 1.00 |   Total Imp(%)=   35.00   Dir. Conn.(%)=   25.00
06729> ----------------------
06730>                              IMPERVIOUS    PERVIOUS (i)
06731>      Surface Area     (ha)=        .33          .60
06732>      Dep. Storage     (mm)=       2.00         5.00
06733>      Average Slope     (%)=       1.00         2.00
06734>      Length            (m)=      90.00        25.00
06735>      Mannings n             =       .013         .250
06736>
06737>      Max.eff.Inten.(mm/hr)=     228.89        25.12
06738>                   over (min)        2.00        11.00
06739>      Storage Coeff.  (min)=       1.72 (ii)   10.97 (ii)
06740>      Unit Hyd. Tpeak (min)=       2.00        11.00
06741>      Unit Hyd. peak  (cms)=        .61          .10
06742>                                                          *TOTALS*
06743>      PEAK FLOW       (cms)=        .14          .03          .146 (iii)
06744>      TIME TO PEAK    (hrs)=       1.00         1.22         1.000
06745>      RUNOFF VOLUME    (mm)=      67.59        10.40        24.695
06746>      TOTAL RAINFALL   (mm)=      69.59        69.59        69.590
06747>      RUNOFF COEFFICIENT   =        .97          .15          .355
06748>
06749>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
06750>            CN* =  39.0    Ia = Dep. Storage  (Above)
```

```
06751>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
06752>            THAN THE STORAGE COEFFICIENT.
06753>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
06754>
06755> --------------------------------------------------------------------------------
06756> 001:0288--------------------------------------------------------------------------
06757> ----------------------
06758> | COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .119  (cms)
06759> | TotalHyd 02:C208   |   Number of inlets in system [NINLET] =      1
06760> ----------------------   Total minor system capacity          =    .119  (cms)
06761>                          Total major system storage [TMJSTO] =      0.(cu.m.)
06762>
06763>                    ID: NHYD        AREA     QPEAK     TPEAK     R.V.      DWF
06764>                                     (ha)     (cms)     (hrs)     (mm)     (cms)
06765>      TOTAL HYD.   02:C208           .93      .146     1.000   24.695     .000
06766>      ==========================================================================
06767>      MAJOR SYST   06:toET2          .02      .027     1.000   24.695     .000
06768>      MINOR SYST   05:toSWMF         .91      .119      .967   24.695     .000
06769>
06770>      NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
06771>
06772> --------------------------------------------------------------------------------
06773> 001:0289--------------------------------------------------------------------------
06774> ----------------------
06775> | CALIB STANDHYD     |   Area    (ha)=    1.29
06776> | 02:C203   DT= 1.00 |   Total Imp(%)=   68.00   Dir. Conn.(%)=   66.00
06777> ----------------------
06778>                              IMPERVIOUS    PERVIOUS (i)
06779>      Surface Area     (ha)=        .88         .41
06780>      Dep. Storage     (mm)=       2.00        5.00
06781>      Average Slope     (%)=        .50        2.00
06782>      Length            (m)=     100.00      100.00
06783>      Mannings n            =       .013        .250
06784>
06785>      Max.eff.Inten.(mm/hr)=     228.89       12.90
06786>                 over (min)        2.00       30.00
06787>      Storage Coeff.  (min)=       2.26 (ii)  30.00 (ii)
06788>      Unit Hyd. Tpeak (min)=       2.00       30.00
06789>      Unit Hyd. peak  (cms)=        .52         .04
06790>                                                          *TOTALS*
06791>      PEAK FLOW       (cms)=        .49         .01          .490 (iii)
06792>      TIME TO PEAK    (hrs)=       1.00        1.58         1.000
06793>      RUNOFF VOLUME    (mm)=      67.59        9.59        47.871
06794>      TOTAL RAINFALL   (mm)=      69.59       69.59        69.590
06795>      RUNOFF COEFFICIENT   =        .97         .14          .688
06796>
06797>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
06798>            CN* =  39.0    Ia = Dep. Storage  (Above)
06799>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
06800>            THAN THE STORAGE COEFFICIENT.
06801>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
06802>
06803> --------------------------------------------------------------------------------
06804> 001:0290--------------------------------------------------------------------------
06805> ----------------------
06806> | ADD HYD (toSWMF    ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
06807> ------------------------                  (ha)     (cms)   (hrs)   (mm)   (cms)
06808>                        ID1 01:C202         9.66    1.804    1.00  27.63    .000
06809>                       +ID2 02:C203         1.29     .490    1.00  47.87    .000
06810>                       +ID3 03:toSWMF1       .44     .064     .98  24.70    .000
06811>                       +ID4 05:toSWMF2       .91     .119     .97  24.70    .000
06812>                        ========================================================
06813>                        SUM 07:toSWMF       12.30    2.477    1.00  29.43    .000
06814>
06815>    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
06816>
06817> --------------------------------------------------------------------------------
06818> 001:0291--------------------------------------------------------------------------
06819> ----------------------
06820> | ROUTE RESERVOIR    |    Requested routing time step =  1.0 min.
06821> |  IN>07:(toSWMF)    |
06822> | OUT<01:(SWMF  )    |    =========  OUTLFOW STORAGE TABLE  =========
06823> ----------------------    OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
06824>                             (cms)    (ha.m.)   |    (cms)    (ha.m.)
06825>                              .000  .0000E+00    |     .340  .2740E+00
06826>                              .011  .2900E-01    |     .697  .3140E+00
06827>                              .015  .6000E-01    |    1.206  .3540E+00
06828>                              .019  .9200E-01    |    1.880  .3960E+00
06829>                              .022  .1260E+00    |    2.734  .4380E+00
06830>                              .024  .1610E+00    |    3.779  .4820E+00
06831>                              .027  .1980E+00    |    5.029  .5260E+00
06832>                              .120  .2360E+00    |     .000  .0000E+00
06833>
06834>      ROUTING RESULTS            AREA     QPEAK     TPEAK       R.V.
06835>      --------------------        (ha)     (cms)     (hrs)       (mm)
06836>      INFLOW >07: (toSWMF)      12.30     2.477     1.000     29.433
06837>      OUTFLOW<01: (SWMF  )      12.30      .257     1.733     29.432
06838>     OVERFLOW<02: (OverQ )        .00      .000      .000       .000
06839>
06840>                    TOTAL NUMBER OF SIMULATED OVERFLOWS  =        0
06841>                    CUMULATIVE TIME OF OVERFLOWS  (hours)=      .00
06842>                    PERCENTAGE OF TIME OVERFLOWING    (%)=      .00
06843>
06844>
06845>                    PEAK   FLOW   REDUCTION [Qout/Qin](%)=   10.387
06846>                    TIME SHIFT OF PEAK FLOW         (min)=    44.00
06847>                    MAXIMUM  STORAGE   USED       (ha.m.)=.2597E+00
06848>
06849> --------------------------------------------------------------------------------
06850> 001:0292--------------------------------------------------------------------------
06851> ----------------------
06852> | CALIB STANDHYD     |   Area    (ha)=   18.54
06853> | 03:EX-2   DT= 1.00 |   Total Imp(%)=   35.00   Dir. Conn.(%)=   25.00
06854> ----------------------
06855>                              IMPERVIOUS    PERVIOUS (i)
06856>      Surface Area     (ha)=       6.49        12.05
06857>      Dep. Storage     (mm)=       2.00         5.00
06858>      Average Slope     (%)=       1.00         2.00
06859>      Length            (m)=      90.00        50.00
06860>      Mannings n            =       .013         .250
06861>
06862>      Max.eff.Inten.(mm/hr)=     228.89        20.84
06863>                 over (min)        2.00        17.00
06864>      Storage Coeff.  (min)=       1.72 (ii)   16.83 (ii)
06865>      Unit Hyd. Tpeak (min)=       2.00        17.00
06866>      Unit Hyd. peak  (cms)=        .61         .07
06867>                                                          *TOTALS*
06868>      PEAK FLOW       (cms)=       2.79         .41          2.844 (iii)
06869>      TIME TO PEAK    (hrs)=       1.00        1.33         1.000
06870>      RUNOFF VOLUME    (mm)=      67.59       10.40        24.695
06871>      TOTAL RAINFALL   (mm)=      69.59       69.59        69.590
06872>      RUNOFF COEFFICIENT   =        .97         .15          .355
06873>
06874>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
06875>            CN* =  39.0    Ia = Dep. Storage  (Above)
06876>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
06877>            THAN THE STORAGE COEFFICIENT.
06878>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
06879>
06880> --------------------------------------------------------------------------------
06881> 001:0293--------------------------------------------------------------------------
06882> ----------------------
06883> | CALIB STANDHYD     |   Area    (ha)=     .51
06884> | 05:C209   DT= 1.00 |   Total Imp(%)=   61.00   Dir. Conn.(%)=   55.00
06885> ----------------------
06886>                              IMPERVIOUS    PERVIOUS (i)
06887>      Surface Area     (ha)=        .31         .20
06888>      Dep. Storage     (mm)=       2.00        5.00
06889>      Average Slope     (%)=       1.00        2.00
06890>      Length            (m)=      90.00       10.00
06891>      Mannings n            =       .013         .250
06892>
06893>      Max.eff.Inten.(mm/hr)=     228.89       27.82
06894>                 over (min)        2.00        7.00
06895>      Storage Coeff.  (min)=       1.72 (ii)   6.85 (ii)
06896>      Unit Hyd. Tpeak (min)=       2.00        7.00
06897>      Unit Hyd. peak  (cms)=        .61         .16
06898>                                                          *TOTALS*
06899>      PEAK FLOW       (cms)=        .17         .01          .173 (iii)
06900>      TIME TO PEAK    (hrs)=       1.00        1.13         1.000
06901>      RUNOFF VOLUME    (mm)=      67.59       10.40        41.853
06902>      TOTAL RAINFALL   (mm)=      69.59       69.59        69.590
06903>      RUNOFF COEFFICIENT   =        .97         .15          .601
06904>
06905>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
06906>            CN* =  39.0    Ia = Dep. Storage  (Above)
06907>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
06908>            THAN THE STORAGE COEFFICIENT.
06909>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
06910>
06911> --------------------------------------------------------------------------------
06912> 001:0294--------------------------------------------------------------------------
06913> ----------------------
06914> | COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .109  (cms)
06915> | TotalHyd 05:C209   |   Number of inlets in system [NINLET] =      1
06916> ----------------------   Total minor system capacity          =    .109  (cms)
06917>                          Total major system storage [TMJSTO] =      0.(cu.m.)
06918>
06919>                    ID: NHYD        AREA     QPEAK     TPEAK     R.V.      DWF
06920>                                     (ha)     (cms)     (hrs)     (mm)     (cms)
06921>      TOTAL HYD.   05:C209           .51      .173     1.000   41.853     .000
06922>      ==========================================================================
06923>      MAJOR SYST   08:toET3          .04      .064     1.000   41.853     .000
06924>      MINOR SYST   07:toWT1          .47      .109      .950   41.853     .000
06925>
06926>      NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
06927>
06928> --------------------------------------------------------------------------------
06929> 001:0295--------------------------------------------------------------------------
06930> ----------------------
06931> | ADD HYD (EAST-T    ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
06932> ------------------------                  (ha)     (cms)   (hrs)   (mm)   (cms)
06933>                        ID1 01:SWMF        12.30     .257    1.73  29.43    .000
06934>                       +ID2 02:OverQ         .00     .000     .00    .00    .000
06935>                       +ID3 03:EX-2        18.54    2.844    1.00  24.70    .000
06936>                       +ID4 04:toET1         .00     .005    1.00  24.70    .000
06937>                       +ID5 06:toET2         .02     .027    1.00  24.70    .000
06938>                       +ID6 08:toET3         .04     .064    1.00  41.85    .000
06939>                        ========================================================
06940>                        SUM 05:EAST-T      30.90    2.960    1.00  26.60    .000
06941>
06942>    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
06943>
06944> --------------------------------------------------------------------------------
06945> 001:0296--------------------------------------------------------------------------
06946> ----------------------
06947> | CALIB STANDHYD     |   Area    (ha)=     .39
06948> | 01:C210   DT= 1.00 |   Total Imp(%)=   90.00   Dir. Conn.(%)=   90.00
06949> ----------------------
06950>                              IMPERVIOUS    PERVIOUS (i)
06951>      Surface Area     (ha)=        .35         .04
06952>      Dep. Storage     (mm)=       2.00        5.00
06953>      Average Slope     (%)=       1.00        2.00
06954>      Length            (m)=      90.00       10.00
06955>      Mannings n            =       .013         .250
06956>
06957>      Max.eff.Inten.(mm/hr)=     228.89       20.32
06958>                 over (min)        2.00        8.00
06959>      Storage Coeff.  (min)=       1.72 (ii)   7.53 (ii)
06960>      Unit Hyd. Tpeak (min)=       2.00        8.00
06961>      Unit Hyd. peak  (cms)=        .61         .15
06962>                                                          *TOTALS*
06963>      PEAK FLOW       (cms)=        .21         .00          .212 (iii)
06964>      TIME TO PEAK    (hrs)=       1.00        1.17         1.000
06965>      RUNOFF VOLUME    (mm)=      67.59        9.03        61.734
06966>      TOTAL RAINFALL   (mm)=      69.59       69.59        69.590
06967>      RUNOFF COEFFICIENT   =        .97         .13          .887
06968>
06969>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
06970>            CN* =  39.0    Ia = Dep. Storage  (Above)
06971>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
06972>            THAN THE STORAGE COEFFICIENT.
06973>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
06974>
06975> --------------------------------------------------------------------------------
06976> 001:0297--------------------------------------------------------------------------
06977> ----------------------
06978> | CALIB NASHYD       |   Area    (ha)=    7.98   Curve Number   (CN)=62.00
06979> | 02:C206   DT= 1.00 |   Ia      (mm)=   8.000   # of Linear Res.(N)= 3.00
06980> ----------------------   U.H. Tp(hrs)=    .540
06981>
06982>      Unit Hyd Qpeak  (cms)=     .564
06983>
06984>      PEAK FLOW       (cms)=     .259 (i)
06985>      TIME TO PEAK    (hrs)=    1.733
06986>      RUNOFF VOLUME    (mm)=   17.459
06987>      TOTAL RAINFALL   (mm)=   69.590
06988>      RUNOFF COEFFICIENT   =     .251
06989>
06990>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
06991>
06992> --------------------------------------------------------------------------------
06993> 001:0298--------------------------------------------------------------------------
06994> ----------------------
06995> | CALIB STANDHYD     |   Area    (ha)=     .54
06996> | 03:C107   DT= 1.00 |   Total Imp(%)=   75.00   Dir. Conn.(%)=    1.00
06997> ----------------------
06998>                              IMPERVIOUS    PERVIOUS (i)
06999>      Surface Area     (ha)=        .41         .14
07000>      Dep. Storage     (mm)=       2.00        5.00
07001>      Average Slope     (%)=       1.00        2.00
07002>      Length            (m)=      90.00       40.00
07003>      Mannings n            =       .013         .250
07004>
07005>      Max.eff.Inten.(mm/hr)=     228.89       298.81
07006>                 over (min)        2.00        6.00
07007>      Storage Coeff.  (min)=       1.72 (ii)   6.28 (ii)
07008>      Unit Hyd. Tpeak (min)=       2.00        6.00
07009>      Unit Hyd. peak  (cms)=        .61         .18
07010>                                                          *TOTALS*
07011>      PEAK FLOW       (cms)=        .00         .08          .077 (iii)
07012>      TIME TO PEAK    (hrs)=       1.00        1.08         1.083
07013>      RUNOFF VOLUME    (mm)=      67.59       27.68        28.081
07014>      TOTAL RAINFALL   (mm)=      69.59       69.59        69.590
07015>      RUNOFF COEFFICIENT   =        .97         .40          .404
07016>
07017>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
07018>            CN* =  39.0    Ia = Dep. Storage  (Above)
07019>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
07020>            THAN THE STORAGE COEFFICIENT.
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07021>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
07022>
07023> ---------------------------------------------------------------------------
07024> 001:0299-----------------------------------------------------------------
07025> ----------------------
07026> | ADD HYD (WEST-T    ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
07027> ----------------------                   (ha)     (cms)   (hrs)   (mm)    (cms)
07028>                       ID1 01:C210          .39     .212    1.00  61.73    .000
07029>                      +ID2 02:C206         7.98     .259    1.73  17.46    .000
07030>                      +ID3 03:C107          .54     .077    1.08  28.08    .000
07031>                      +ID4 07:toWT1         .47     .109     .95  41.85    .000
07032>                       ==========================================================
07033>                       SUM 04:WEST-T        9.38     .373    1.00  21.14    .000
07034>
07035>    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
07036>
07037> ---------------------------------------------------------------------------
07038> 001:0300-----------------------------------------------------------------
07039> ----------------------
07040> | CALIB NASHYD       |   Area    (ha)=    6.96   Curve Number   (CN)=32.00
07041> | 01:C201   DT= 1.00 |   Ia      (mm)=   8.000   # of Linear Res.(N)= 3.00
07042> ----------------------   U.H. Tp(hrs)=    .510
07043>
07044>      Unit Hyd Qpeak  (cms)=     .521
07045>
07046>      PEAK FLOW       (cms)=     .082 (i)
07047>      TIME TO PEAK    (hrs)=    1.717
07048>      RUNOFF VOLUME    (mm)=    6.308
07049>      TOTAL RAINFALL   (mm)=   69.590
07050>      RUNOFF COEFFICIENT   =     .091
07051>
07052>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
07053>
07054> ---------------------------------------------------------------------------
07055> 001:0301-----------------------------------------------------------------
07056> ----------------------
07057> | CALIB NASHYD       |   Area    (ha)=    2.04   Curve Number   (CN)=55.00
07058> | 02:C204   DT= 1.00 |   Ia      (mm)=   8.000   # of Linear Res.(N)= 3.00
07059> ----------------------   U.H. Tp(hrs)=    .480
07060>
07061>      Unit Hyd Qpeak  (cms)=     .162
07062>
07063>      PEAK FLOW       (cms)=     .057 (i)
07064>      TIME TO PEAK    (hrs)=    1.667
07065>      RUNOFF VOLUME    (mm)=   14.080
07066>      TOTAL RAINFALL   (mm)=   69.590
07067>      RUNOFF COEFFICIENT   =     .202
07068>
07069>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
07070>
07071> ---------------------------------------------------------------------------
07072> 001:0302-----------------------------------------------------------------
07073> ----------------------
07074> | ADD HYD (NORTH-W   ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
07075> ----------------------                   (ha)     (cms)   (hrs)   (mm)    (cms)
07076>                       ID1 01:C201          6.96     .082    1.72   6.31    .000
07077>                      +ID2 02:C204          2.04     .057    1.67  14.08    .000
07078>                       ==========================================================
07079>                       SUM 03:NORTH-W       9.00     .140    1.70   8.07    .000
07080>
07081>    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
07082>
07083> ---------------------------------------------------------------------------
07084> 001:0303-----------------------------------------------------------------
07085> ----------------------
07086> | CALIB NASHYD       |   Area    (ha)=   11.96   Curve Number   (CN)=44.00
07087> | 01:C205   DT= 1.00 |   Ia      (mm)=   8.000   # of Linear Res.(N)= 3.00
07088> ----------------------   U.H. Tp(hrs)=    .870
07089>
07090>      Unit Hyd Qpeak  (cms)=     .525
07091>
07092>      PEAK FLOW       (cms)=     .154 (i)
07093>      TIME TO PEAK    (hrs)=    2.183
07094>      RUNOFF VOLUME    (mm)=    9.856
07095>      TOTAL RAINFALL   (mm)=   69.590
07096>      RUNOFF COEFFICIENT   =     .142
07097>
07098>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
07099>
07100> ---------------------------------------------------------------------------
07101> 001:0304-----------------------------------------------------------------
07102> ----------------------
07103> | CALIB STANDHYD     |   Area    (ha)=     .61
07104> | 02:C108   DT= 1.00 |   Total Imp(%)=   75.00   Dir. Conn.(%)=    1.00
07105> ----------------------
07106>                              IMPERVIOUS    PERVIOUS (i)
07107>      Surface Area     (ha)=        .46          .15
07108>      Dep. Storage     (mm)=       2.00         5.00
07109>      Average Slope     (%)=       1.00         2.00
07110>      Length            (m)=      90.00        40.00
07111>      Mannings n             =      .013         .250
07112>
07113>      Max.eff.Inten.(mm/hr)=     228.89       298.81
07114>                 over (min)        2.00         6.00
07115>      Storage Coeff.  (min)=       1.72 (ii)    6.28 (ii)
07116>      Unit Hyd. Tpeak (min)=       2.00         6.00
07117>      Unit Hyd. peak  (cms)=        .61          .18
07118>                                                          *TOTALS*
07119>      PEAK FLOW       (cms)=        .00          .09          .087 (iii)
07120>      TIME TO PEAK    (hrs)=       1.00         1.08         1.083
07121>      RUNOFF VOLUME    (mm)=      67.59        27.68        28.081
07122>      TOTAL RAINFALL   (mm)=      69.59        69.59        69.590
07123>      RUNOFF COEFFICIENT   =        .97          .40          .404
07124>
07125>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
07126>            CN* =  39.0    Ia = Dep. Storage  (Above)
07127>         (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
07128>              THAN THE STORAGE COEFFICIENT.
07129>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
07130>
07131> ---------------------------------------------------------------------------
07132> 001:0305-----------------------------------------------------------------
07133> ----------------------
07134> | ADD HYD (CENTER-W  ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
07135> ----------------------                   (ha)     (cms)   (hrs)   (mm)    (cms)
07136>                       ID1 01:C205         11.96     .154    2.18   9.86    .000
07137>                      +ID2 02:C108           .61     .087    1.08  28.08    .000
07138>                       ==========================================================
07139>                       SUM 04:CENTER-W     12.57     .162    2.15  10.74    .000
07140>
07141>    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
07142>
07143> ---------------------------------------------------------------------------
07144> 001:0306-----------------------------------------------------------------
07145> *#*************************************************************************
07146> *#                          ============================================
07147> *#                           PROSPOSED ULTIMATE DEVELOPMENT CONDITIONS
07148> *#                          ============================================
07149> *#*************************************************************************
07150> ----------------------
07151> | CALIB STANDHYD     |   Area    (ha)=     .43
07152> | 01:B100   DT= 1.00 |   Total Imp(%)=   80.00   Dir. Conn.(%)=   60.00
07153> ----------------------
07154>                              IMPERVIOUS    PERVIOUS (i)
07155>      Surface Area     (ha)=        .34          .09
07156>      Dep. Storage     (mm)=       2.00         5.00
07157>      Average Slope     (%)=       1.00         2.00
07158>      Length            (m)=      90.00        25.00
07159>      Mannings n             =      .013         .250
07160>
07161>      Max.eff.Inten.(mm/hr)=     228.89        79.79
07162>                 over (min)        2.00         8.00
07163>      Storage Coeff.  (min)=       1.72 (ii)    7.55 (ii)
07164>      Unit Hyd. Tpeak (min)=       2.00         8.00
07165>      Unit Hyd. peak  (cms)=        .61          .15
07166>                                                          *TOTALS*
07167>      PEAK FLOW       (cms)=        .16          .01          .160 (iii)
07168>      TIME TO PEAK    (hrs)=       1.00         1.15         1.000
07169>      RUNOFF VOLUME    (mm)=      67.59        16.94        47.329
07170>      TOTAL RAINFALL   (mm)=      69.59        69.59        69.590
07171>      RUNOFF COEFFICIENT   =        .97          .24          .680
07172>
07173>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
07174>            CN* =  39.0    Ia = Dep. Storage  (Above)
07175>         (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
07176>              THAN THE STORAGE COEFFICIENT.
07177>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
07178>
07179> ---------------------------------------------------------------------------
07180> 001:0307-----------------------------------------------------------------
07181> ----------------------
07182> | COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .077  (cms)
07183> | TotalHyd 01:B100   |   Number of inlets in system [NINLET] =       1
07184> ----------------------   Total minor system capacity          =    .077  (cms)
07185>                          Total major system storage [TMJSTO] =       0.(cu.m.)
07186>
07187>                    ID: NHYD        AREA     QPEAK     TPEAK     R.V.      DWF
07188>                                    (ha)     (cms)     (hrs)     (mm)     (cms)
07189>      TOTAL HYD.   01:B100           .43      .160     1.000   47.329     .000
07190>      ==========================================================================
07191>      MAJOR SYST   03:toCW1          .06      .083     1.000   47.329     .000
07192>      MINOR SYST   02:toSWMF         .37      .077      .933   47.329     .000
07193>
07194>      NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
07195>
07196> ---------------------------------------------------------------------------
07197> 001:0308-----------------------------------------------------------------
07198> ----------------------
07199> | CALIB STANDHYD     |   Area    (ha)=    4.00
07200> | 01:C303   DT= 1.00 |   Total Imp(%)=   40.00   Dir. Conn.(%)=   30.00
07201> ----------------------
07202>                              IMPERVIOUS    PERVIOUS (i)
07203>      Surface Area     (ha)=       1.60         2.40
07204>      Dep. Storage     (mm)=       2.00         5.00
07205>      Average Slope     (%)=       1.00         2.00
07206>      Length            (m)=      90.00        25.00
07207>      Mannings n             =      .013         .250
07208>
07209>      Max.eff.Inten.(mm/hr)=     228.89        25.69
07210>                 over (min)        2.00        11.00
07211>      Storage Coeff.  (min)=       1.72 (ii)   10.89 (ii)
07212>      Unit Hyd. Tpeak (min)=       2.00        11.00
07213>      Unit Hyd. peak  (cms)=        .61          .10
07214>                                                          *TOTALS*
07215>      PEAK FLOW       (cms)=        .72          .11          .747 (iii)
07216>      TIME TO PEAK    (hrs)=       1.00         1.22         1.000
07217>      RUNOFF VOLUME    (mm)=      67.59        10.51        27.633
07218>      TOTAL RAINFALL   (mm)=      69.59        69.59        69.590
07219>      RUNOFF COEFFICIENT   =        .97          .15          .397
07220>
07221>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
07222>            CN* =  39.0    Ia = Dep. Storage  (Above)
07223>         (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
07224>              THAN THE STORAGE COEFFICIENT.
07225>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
07226>
07227> ---------------------------------------------------------------------------
07228> 001:0309-----------------------------------------------------------------
07229> ----------------------
07230> | COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .440  (cms)
07231> | TotalHyd 01:C303   |   Number of inlets in system [NINLET] =       1
07232> ----------------------   Total minor system capacity          =    .440  (cms)
07233>                          Total major system storage [TMJSTO] =       0.(cu.m.)
07234>
07235>                    ID: NHYD        AREA     QPEAK     TPEAK     R.V.      DWF
07236>                                    (ha)     (cms)     (hrs)     (mm)     (cms)
07237>      TOTAL HYD.   01:C303          4.00      .747     1.000   27.633     .000
07238>      ==========================================================================
07239>      MAJOR SYST   05:toCW2          .30      .307     1.000   27.633     .000
07240>      MINOR SYST   04:toSWMF        3.70      .440      .950   27.633     .000
07241>
07242>      NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
07243>
07244> ---------------------------------------------------------------------------
07245> 001:0310-----------------------------------------------------------------
07246> ----------------------
07247> | CALIB STANDHYD     |   Area    (ha)=    1.14
07248> | 01:C309   DT= 1.00 |   Total Imp(%)=   62.00   Dir. Conn.(%)=   57.00
07249> ----------------------
07250>                              IMPERVIOUS    PERVIOUS (i)
07251>      Surface Area     (ha)=        .71          .43
07252>      Dep. Storage     (mm)=       2.00         5.00
07253>      Average Slope     (%)=       1.00         2.00
07254>      Length            (m)=      90.00        25.00
07255>      Mannings n             =      .013         .250
07256>
07257>      Max.eff.Inten.(mm/hr)=     228.89        24.14
07258>                 over (min)        2.00        11.00
07259>      Storage Coeff.  (min)=       1.72 (ii)   11.12 (ii)
07260>      Unit Hyd. Tpeak (min)=       2.00        11.00
07261>      Unit Hyd. peak  (cms)=        .61          .10
07262>                                                          *TOTALS*
07263>      PEAK FLOW       (cms)=        .39          .02          .396 (iii)
07264>      TIME TO PEAK    (hrs)=       1.00         1.22         1.000
07265>      RUNOFF VOLUME    (mm)=      67.59        10.20        42.914
07266>      TOTAL RAINFALL   (mm)=      69.59        69.59        69.590
07267>      RUNOFF COEFFICIENT   =        .97          .15          .617
07268>
07269>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
07270>            CN* =  39.0    Ia = Dep. Storage  (Above)
07271>         (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
07272>              THAN THE STORAGE COEFFICIENT.
07273>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
07274>
07275> ---------------------------------------------------------------------------
07276> 001:0311-----------------------------------------------------------------
07277> ----------------------
07278> | COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .237  (cms)
07279> | TotalHyd 01:C309   |   Number of inlets in system [NINLET] =       1
07280> ----------------------   Total minor system capacity          =    .237  (cms)
07281>                          Total major system storage [TMJSTO] =       0.(cu.m.)
07282>
07283>                    ID: NHYD        AREA     QPEAK     TPEAK     R.V.      DWF
07284>                                    (ha)     (cms)     (hrs)     (mm)     (cms)
07285>      TOTAL HYD.   01:C309          1.14      .396     1.000   42.914     .000
07286>      ==========================================================================
07287>      MAJOR SYST   07:toCW3          .09      .159     1.000   42.914     .000
07288>      MINOR SYST   06:toSWMF        1.05      .237      .950   42.914     .000
07289>
07290>      NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

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07291>
07292> ---------------------------------------------------------------------------
07293> 001:0312---------------------------------------------------------------------
07294> ----------------------
07295> | CALIB STANDHYD     |   Area    (ha)=     .27
07296> | 01:C308   DT= 1.00 |   Total Imp(%)=   90.00   Dir. Conn.(%)=   90.00
07297> ----------------------
07298>                              IMPERVIOUS    PERVIOUS (i)
07299>      Surface Area     (ha)=        .24          .03
07300>      Dep. Storage     (mm)=       2.00         5.00
07301>      Average Slope     (%)=       1.00         2.00
07302>      Length            (m)=      90.00        40.00
07303>      Mannings n             =       .013         .250
07304>
07305>      Max.eff.Inten.(mm/hr)=     228.89        16.08
07306>                  over (min)        2.00        16.00
07307>      Storage Coeff.  (min)=       1.72 (ii)   16.38 (ii)
07308>      Unit Hyd. Tpeak (min)=       2.00        16.00
07309>      Unit Hyd. peak  (cms)=        .61          .07
07310>                                                          *TOTALS*
07311>      PEAK FLOW       (cms)=        .15          .00          .147 (iii)
07312>      TIME TO PEAK    (hrs)=       1.00         1.00         1.000
07313>      RUNOFF VOLUME    (mm)=      67.59        9.03         61.734
07314>      TOTAL RAINFALL   (mm)=      69.59       69.59         69.590
07315>      RUNOFF COEFFICIENT   =        .97          .13           .887
07316>
07317>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
07318>            CN* =  39.0    Ia = Dep. Storage  (Above)
07319>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
07320>            THAN THE STORAGE COEFFICIENT.
07321>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
07322>
07323> ---------------------------------------------------------------------------
07324> 001:0313---------------------------------------------------------------------
07325> ----------------------
07326> | COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .025  (cms)
07327> | TotalHyd 01:C308   |   Number of inlets in system [NINLET] =       1
07328> ----------------------   Total minor system capacity          =    .025  (cms)
07329>                          Total major system storage [TMJSTO] =       0.(cu.m.)
07330>
07331>                    ID: NHYD        AREA     QPEAK     TPEAK     R.V.       DWF
07332>                                     (ha)     (cms)     (hrs)     (mm)     (cms)
07333>      TOTAL HYD.   01:C308           .27      .147     1.000   61.734     .000
07334>      ==========================================================================
07335>      MAJOR SYST   09:toCW4          .11      .121     1.000   61.734     .000
07336>      MINOR SYST   08:toSWMF         .16      .025      .850   61.734     .000
07337>
07338>      NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
07339>
07340> ---------------------------------------------------------------------------
07341> 001:0314---------------------------------------------------------------------
07342> ----------------------
07343> | CALIB NASHYD       |   Area    (ha)=    9.89   Curve Number   (CN)=34.00
07344> | 01:C304   DT= 1.00 |   Ia      (mm)=   8.000   # of Linear Res.(N)= 3.00
07345> ----------------------   U.H. Tp(hrs)=    .510
07346>
07347>      Unit Hyd Qpeak  (cms)=     .741
07348>
07349>      PEAK FLOW       (cms)=     .127 (i)
07350>      TIME TO PEAK    (hrs)=    1.717
07351>      RUNOFF VOLUME    (mm)=    6.839
07352>      TOTAL RAINFALL   (mm)=   69.590
07353>      RUNOFF COEFFICIENT   =     .098
07354>
07355>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
07356>
07357> ---------------------------------------------------------------------------
07358> 001:0315---------------------------------------------------------------------
07359> ----------------------
07360> | ADD HYD (CENTER-W  ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
07361> ----------------------                    (ha)     (cms)   (hrs)   (mm)    (cms)
07362>                       ID1 01:C304          9.89     .127    1.72   6.84    .000
07363>                     +ID2 03:toCW1           .06     .083    1.00  47.33    .000
07364>                     +ID3 05:toCW2           .30     .307    1.00  27.63    .000
07365>                     +ID4 07:toCW3           .09     .159    1.00  42.91    .000
07366>                     +ID5 09:toCW4           .11     .121    1.00  61.73    .000
07367>                      ================================================================
07368>                      SUM 10:CENTER-W      10.45     .674    1.00   8.56    .000
07369>
07370>    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
07371>
07372> ---------------------------------------------------------------------------
07373> 001:0316---------------------------------------------------------------------
07374> ----------------------
07375> | ROUTE RESERVOIR    |    Requested routing time step =  1.0 min.
07376> |  IN>10:(CENTER)    |
07377> | OUT<01:(CW-SSD)    |    =========  OUTLFOW STORAGE TABLE  =========
07378> ----------------------    OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
07379>                             (cms)     (ha.m.)   |    (cms)    (ha.m.)
07380>                              .000  .0000E+00    |     .222  .6400E+00
07381>                              .000  .3700E+00    |     .000  .0000E+00
07382>
07383>      ROUTING RESULTS            AREA     QPEAK     TPEAK       R.V.
07384>      --------------------        (ha)     (cms)     (hrs)       (mm)
07385>      INFLOW >10: (CENTER)      10.45      .674     1.000      8.559
07386>      OUTFLOW<01: (CW-SSD)      10.45      .000      .000       .000
07387>     OVERFLOW<03: (toWT1 )        .00      .000      .000       .000
07388>
07389>                     TOTAL NUMBER OF SIMULATED OVERFLOWS  =        0
07390>                     CUMULATIVE TIME OF OVERFLOWS  (hours)=      .00
07391>                     PERCENTAGE OF TIME OVERFLOWING    (%)=      .00
07392>
07393>
07394>                     PEAK   FLOW   REDUCTION [Qout/Qin](%)=     .000
07395>                     TIME SHIFT OF PEAK FLOW         (min)=   -60.00
07396>                     MAXIMUM  STORAGE   USED       (ha.m.)=.8946E-01
07397>
07398>       *** WARNING: Outflow volume is less than inflow volume.
07399> ---------------------------------------------------------------------------
07400> 001:0317---------------------------------------------------------------------
07401> ----------------------
07402> | CALIB STANDHYD     |   Area    (ha)=     .44
07403> | 05:C207   DT= 1.00 |   Total Imp(%)=   35.00   Dir. Conn.(%)=   25.00
07404> ----------------------
07405>                              IMPERVIOUS    PERVIOUS (i)
07406>      Surface Area     (ha)=        .15          .29
07407>      Dep. Storage     (mm)=       2.00         5.00
07408>      Average Slope     (%)=       1.00         2.00
07409>      Length            (m)=      90.00        25.00
07410>      Mannings n             =       .013         .250
07411>
07412>      Max.eff.Inten.(mm/hr)=     228.89        25.12
07413>                  over (min)        2.00        11.00
07414>      Storage Coeff.  (min)=       1.72 (ii)   10.97 (ii)
07415>      Unit Hyd. Tpeak (min)=       2.00        11.00
07416>      Unit Hyd. peak  (cms)=        .61          .10
07417>                                                          *TOTALS*
07418>      PEAK FLOW       (cms)=        .07          .01          .069 (iii)
07419>      TIME TO PEAK    (hrs)=       1.00         1.22         1.000
07420>      RUNOFF VOLUME    (mm)=      67.59        10.40         24.695
07421>      TOTAL RAINFALL   (mm)=      69.59        69.59         69.590
07422>      RUNOFF COEFFICIENT   =        .97          .15           .355
07423>
07424>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
07425>            CN* =  39.0    Ia = Dep. Storage  (Above)
07426>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
07427>            THAN THE STORAGE COEFFICIENT.
07428>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
07429>
07430> ---------------------------------------------------------------------------
07431> 001:0318---------------------------------------------------------------------
07432> ----------------------
07433> | COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .064  (cms)
07434> | TotalHyd 05:C207   |   Number of inlets in system [NINLET] =       1
07435> ----------------------   Total minor system capacity          =    .064  (cms)
07436>                          Total major system storage [TMJSTO] =       0.(cu.m.)
07437>
07438>                    ID: NHYD        AREA     QPEAK     TPEAK     R.V.       DWF
07439>                                     (ha)     (cms)     (hrs)     (mm)     (cms)
07440>      TOTAL HYD.   05:C207           .44      .069     1.000   24.695     .000
07441>      ==========================================================================
07442>      MAJOR SYST   09:toET1          .00      .005     1.000   24.695     .000
07443>      MINOR SYST   07:toSWMF         .44      .064      .983   24.695     .000
07444>
07445>      NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
07446>
07447> ---------------------------------------------------------------------------
07448> 001:0319---------------------------------------------------------------------
07449> ----------------------
07450> | CALIB STANDHYD     |   Area    (ha)=     .93
07451> | 05:C208   DT= 1.00 |   Total Imp(%)=   35.00   Dir. Conn.(%)=   25.00
07452> ----------------------
07453>                              IMPERVIOUS    PERVIOUS (i)
07454>      Surface Area     (ha)=        .33          .60
07455>      Dep. Storage     (mm)=       2.00         5.00
07456>      Average Slope     (%)=       1.00         2.00
07457>      Length            (m)=      90.00        25.00
07458>      Mannings n             =       .013         .250
07459>
07460>      Max.eff.Inten.(mm/hr)=     228.89        25.12
07461>                  over (min)        2.00        11.00
07462>      Storage Coeff.  (min)=       1.72 (ii)   10.97 (ii)
07463>      Unit Hyd. Tpeak (min)=       2.00        11.00
07464>      Unit Hyd. peak  (cms)=        .61          .10
07465>                                                          *TOTALS*
07466>      PEAK FLOW       (cms)=        .14          .03          .146 (iii)
07467>      TIME TO PEAK    (hrs)=       1.00         1.22         1.000
07468>      RUNOFF VOLUME    (mm)=      67.59        10.40         24.695
07469>      TOTAL RAINFALL   (mm)=      69.59        69.59         69.590
07470>      RUNOFF COEFFICIENT   =        .97          .15           .355
07471>
07472>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
07473>            CN* =  39.0    Ia = Dep. Storage  (Above)
07474>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
07475>            THAN THE STORAGE COEFFICIENT.
07476>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
07477>
07478> ---------------------------------------------------------------------------
07479> 001:0320---------------------------------------------------------------------
07480> ----------------------
07481> | COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .119  (cms)
07482> | TotalHyd 05:C208   |   Number of inlets in system [NINLET] =       1
07483> ----------------------   Total minor system capacity          =    .119  (cms)
07484>                          Total major system storage [TMJSTO] =       0.(cu.m.)
07485>
07486>                    ID: NHYD        AREA     QPEAK     TPEAK     R.V.       DWF
07487>                                     (ha)     (cms)     (hrs)     (mm)     (cms)
07488>      TOTAL HYD.   05:C208           .93      .146     1.000   24.695     .000
07489>      ==========================================================================
07490>      MAJOR SYST   03:toET2          .02      .027     1.000   24.695     .000
07491>      MINOR SYST   01:toSWMF         .91      .119      .967   24.695     .000
07492>
07493>      NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
07494>
07495> ---------------------------------------------------------------------------
07496> 001:0321---------------------------------------------------------------------
07497> ----------------------
07498> | ADD HYD (toSWMF1A  ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
07499> ----------------------                    (ha)     (cms)   (hrs)   (mm)    (cms)
07500>                       ID1 01:toSWMF6       .91      .119     .97  24.70    .000
07501>                     +ID2 02:toSWMF1        .37      .077     .93  47.33    .000
07502>                     +ID3 04:toSWMF2       3.70      .440     .95  27.63    .000
07503>                     +ID4 06:toSWMF3       1.05      .237     .95  42.91    .000
07504>                     +ID5 07:toSWMF5        .44      .064     .98  24.70    .000
07505>                     +ID6 08:toSWMF4        .16      .025     .85  61.73    .000
07506>                      ================================================================
07507>                      SUM 05:toSWMF1A      6.63      .962     .98  31.38    .000
07508>
07509>    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
07510>
07511> ---------------------------------------------------------------------------
07512> 001:0322---------------------------------------------------------------------
07513> ----------------------
07514> | CALIB STANDHYD     |   Area    (ha)=   12.10
07515> | 01:C302   DT= 1.00 |   Total Imp(%)=   41.00   Dir. Conn.(%)=   31.00
07516> ----------------------
07517>                              IMPERVIOUS    PERVIOUS (i)
07518>      Surface Area     (ha)=       4.96         7.14
07519>      Dep. Storage     (mm)=       2.00         5.00
07520>      Average Slope     (%)=       1.00         2.00
07521>      Length            (m)=      90.00        25.00
07522>      Mannings n             =       .013         .250
07523>
07524>      Max.eff.Inten.(mm/hr)=     228.89        25.82
07525>                  over (min)        2.00        11.00
07526>      Storage Coeff.  (min)=       1.72 (ii)   10.87 (ii)
07527>      Unit Hyd. Tpeak (min)=       2.00        11.00
07528>      Unit Hyd. peak  (cms)=        .61          .10
07529>                                                          *TOTALS*
07530>      PEAK FLOW       (cms)=       2.26          .32         2.332 (iii)
07531>      TIME TO PEAK    (hrs)=       1.00         1.22         1.000
07532>      RUNOFF VOLUME    (mm)=      67.59        10.53         28.220
07533>      TOTAL RAINFALL   (mm)=      69.59        69.59         69.590
07534>      RUNOFF COEFFICIENT   =        .97          .15           .406
07535>
07536>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
07537>            CN* =  39.0    Ia = Dep. Storage  (Above)
07538>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
07539>            THAN THE STORAGE COEFFICIENT.
07540>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
07541>
07542> ---------------------------------------------------------------------------
07543> 001:0323---------------------------------------------------------------------
07544> ----------------------
07545> | CALIB STANDHYD     |   Area    (ha)=    1.29
07546> | 02:C203   DT= 1.00 |   Total Imp(%)=   68.00   Dir. Conn.(%)=   66.00
07547> ----------------------
07548>                              IMPERVIOUS    PERVIOUS (i)
07549>      Surface Area     (ha)=        .88          .41
07550>      Dep. Storage     (mm)=       2.00         5.00
07551>      Average Slope     (%)=        .50         2.00
07552>      Length            (m)=     100.00       100.00
07553>      Mannings n             =       .013         .250
07554>
07555>      Max.eff.Inten.(mm/hr)=     228.89        12.90
07556>                  over (min)        2.00        30.00
07557>      Storage Coeff.  (min)=       2.26 (ii)   30.00 (ii)
07558>      Unit Hyd. Tpeak (min)=       2.00        30.00
07559>      Unit Hyd. peak  (cms)=        .52          .04
07560>                                                          *TOTALS*
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      PEAK FLOW       (cms)=        .49          .01          .490 (iii)
      TIME TO PEAK    (hrs)=       1.00         1.58         1.000
      RUNOFF VOLUME    (mm)=      67.59         9.59        47.871
      TOTAL RAINFALL   (mm)=      69.59        69.59        69.590
      RUNOFF COEFFICIENT   =        .97          .14          .688

        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN* =  39.0    Ia = Dep. Storage  (Above)
       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
            THAN THE STORAGE COEFFICIENT.
      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
001:0324--------------------------------------------------------------------------
----------------------
| ADD HYD (toSWMF2A  ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
----------------------                    (ha)     (cms)   (hrs)   (mm)    (cms)
                      ID1 01:C302          12.10    2.332    1.00  28.22    .000
                     +ID2 02:C203           1.29     .490    1.00  47.87    .000
                     +ID3 05:toSWMF1A       6.63     .962     .98  31.38    .000
                      ==============================================================
                      SUM 04:toSWMF2A      20.02    3.785    1.00  30.53    .000

   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
001:0325--------------------------------------------------------------------------
----------------------
| ROUTE RESERVOIR    |    Requested routing time step =  1.0 min.
|  IN>04:(toSWMF)    |
| OUT<01:(SWMF  )    |    =========  OUTLFOW STORAGE TABLE  =========
----------------------    OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
                            (cms)    (ha.m.)   |    (cms)     (ha.m.)
                             .000  .0000E+00    |     .340  .2740E+00
                             .011  .2900E-01    |     .697  .3140E+00
                             .015  .6000E-01    |    1.206  .3540E+00
                             .019  .9200E-01    |    1.880  .3960E+00
                             .022  .1260E+00    |    2.734  .4380E+00
                             .024  .1610E+00    |    3.779  .4820E+00
                             .027  .1980E+00    |    5.029  .5260E+00
                             .120  .2360E+00    |     .000  .0000E+00

     ROUTING RESULTS             AREA     QPEAK     TPEAK       R.V.
     --------------------         (ha)     (cms)     (hrs)       (mm)
     INFLOW >04: (toSWMF)       20.02     3.785     1.000      30.533
     OUTFLOW<01: (SWMF  )       20.02      .977     1.350      30.533
    OVERFLOW<02: (OverQ )         .00      .000      .000       .000

                    TOTAL NUMBER OF SIMULATED OVERFLOWS  =        0
                    CUMULATIVE TIME OF OVERFLOWS  (hours)=      .00
                    PERCENTAGE OF TIME OVERFLOWING    (%)=      .00


                    PEAK   FLOW   REDUCTION [Qout/Qin](%)=   25.821
                    TIME SHIFT OF PEAK FLOW         (min)=    21.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=.3361E+00

--------------------------------------------------------------------------------
001:0326--------------------------------------------------------------------------
----------------------
| CALIB STANDHYD     |   Area    (ha)=   18.54
| 04:EX-2   DT= 1.00 |   Total Imp(%)=   35.00   Dir. Conn.(%)=   25.00
----------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       6.49         12.05
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       1.00          2.00
     Length            (m)=      90.00         50.00
     Mannings n             =     .013          .250

     Max.eff.Inten.(mm/hr)=     228.89         20.84
               over (min)        2.00         17.00
     Storage Coeff.  (min)=       1.72 (ii)    16.83 (ii)
     Unit Hyd. Tpeak (min)=       2.00         17.00
     Unit Hyd. peak  (cms)=        .61          .07
                                                      *TOTALS*
     PEAK FLOW       (cms)=       2.79          .41         2.844 (iii)
     TIME TO PEAK    (hrs)=       1.00         1.33         1.000
     RUNOFF VOLUME    (mm)=      67.59        10.40        24.695
     TOTAL RAINFALL   (mm)=      69.59        69.59        69.590
     RUNOFF COEFFICIENT   =        .97          .15          .355

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  39.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
001:0327--------------------------------------------------------------------------
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .51
| 05:C209   DT= 1.00 |   Total Imp(%)=   61.00   Dir. Conn.(%)=   55.00
----------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .31          .20
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      90.00        10.00
     Mannings n             =     .013          .250

     Max.eff.Inten.(mm/hr)=     228.89        27.82
               over (min)        2.00         7.00
     Storage Coeff.  (min)=       1.72 (ii)    6.85 (ii)
     Unit Hyd. Tpeak (min)=       2.00         7.00
     Unit Hyd. peak  (cms)=        .61          .16
                                                      *TOTALS*
     PEAK FLOW       (cms)=        .17          .01          .173 (iii)
     TIME TO PEAK    (hrs)=       1.00         1.13         1.000
     RUNOFF VOLUME    (mm)=      67.59        10.40        41.853
     TOTAL RAINFALL   (mm)=      69.59        69.59        69.590
     RUNOFF COEFFICIENT   =        .97          .15          .601

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  39.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
001:0328--------------------------------------------------------------------------
----------------------
| COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .109  (cms)
| TotalHyd 05:C209   |   Number of inlets in system [NINLET] =      1
----------------------   Total minor system capacity          =    .109  (cms)
                         Total major system storage [TMJSTO] =      0.(cu.m.)

                   ID: NHYD        AREA     QPEAK     TPEAK     R.V.      DWF
                                    (ha)     (cms)     (hrs)     (mm)     (cms)
     TOTAL HYD.   05:C209           .51      .173     1.000   41.853     .000
     ================================================================
     MAJOR SYST   07:toET3          .04      .064     1.000   41.853     .000
     MINOR SYST   06:toWT2          .47      .109      .950   41.853     .000

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
001:0329--------------------------------------------------------------------------
----------------------
| ADD HYD (EAST-T    ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
----------------------                    (ha)     (cms)   (hrs)   (mm)    (cms)
                      ID1 01:SWMF          20.02     .977    1.35  30.53    .000
                     +ID2 02:OverQ          .00     .000     .00   .00     .000
                     +ID3 03:toET2          .02     .027    1.00  24.70    .000
                     +ID4 04:EX-2         18.54    2.844    1.00  24.70    .000
                     +ID5 07:toET3          .04     .064    1.00  41.85    .000
                     +ID6 09:toET1          .00     .005    1.00  24.70    .000
                      ==============================================================
                      SUM 05:EAST-T        38.61    2.965    1.00  27.74    .000

   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
001:0330--------------------------------------------------------------------------
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .39
| 01:C210   DT= 1.00 |   Total Imp(%)=   90.00   Dir. Conn.(%)=   90.00
----------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .35          .04
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      90.00        10.00
     Mannings n             =     .013          .250

     Max.eff.Inten.(mm/hr)=     228.89        20.32
               over (min)        2.00         8.00
     Storage Coeff.  (min)=       1.72 (ii)    7.53 (ii)
     Unit Hyd. Tpeak (min)=       2.00         8.00
     Unit Hyd. peak  (cms)=        .61          .15
                                                      *TOTALS*
     PEAK FLOW       (cms)=        .21          .00          .212 (iii)
     TIME TO PEAK    (hrs)=       1.00         1.17         1.000
     RUNOFF VOLUME    (mm)=      67.59         9.03        61.734
     TOTAL RAINFALL   (mm)=      69.59        69.59        69.590
     RUNOFF COEFFICIENT   =        .97          .13          .887

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  39.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
001:0331--------------------------------------------------------------------------
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .27
| 02:C307   DT= 1.00 |   Total Imp(%)=   90.00   Dir. Conn.(%)=    1.00
----------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .24          .03
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      90.00        10.00
     Mannings n             =     .013          .250

     Max.eff.Inten.(mm/hr)=     228.89       1504.63
               over (min)        2.00         3.00
     Storage Coeff.  (min)=       1.72 (ii)    2.76 (ii)
     Unit Hyd. Tpeak (min)=       2.00         3.00
     Unit Hyd. peak  (cms)=        .61          .40
                                                      *TOTALS*
     PEAK FLOW       (cms)=        .00          .09          .090 (iii)
     TIME TO PEAK    (hrs)=       1.00         1.02         1.017
     RUNOFF VOLUME    (mm)=      67.59        43.70        43.939
     TOTAL RAINFALL   (mm)=      69.59        69.59        69.590
     RUNOFF COEFFICIENT   =        .97          .63          .631

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  39.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
001:0332--------------------------------------------------------------------------
----------------------
| CALIB STANDHYD     |   Area    (ha)=    2.61
| 03:C305   DT= 1.00 |   Total Imp(%)=   76.00   Dir. Conn.(%)=   57.00
----------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.98          .63
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      90.00        25.00
     Mannings n             =     .013          .250

     Max.eff.Inten.(mm/hr)=     228.89        64.79
               over (min)        2.00         8.00
     Storage Coeff.  (min)=       1.72 (ii)    8.05 (ii)
     Unit Hyd. Tpeak (min)=       2.00         8.00
     Unit Hyd. peak  (cms)=        .61          .14
                                                      *TOTALS*
     PEAK FLOW       (cms)=        .90          .07          .924 (iii)
     TIME TO PEAK    (hrs)=       1.00         1.15         1.000
     RUNOFF VOLUME    (mm)=      67.59        15.46        45.176
     TOTAL RAINFALL   (mm)=      69.59        69.59        69.590
     RUNOFF COEFFICIENT   =        .97          .22          .649

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  39.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
001:0333--------------------------------------------------------------------------
----------------------
| COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .030  (cms)
| TotalHyd 03:C305   |   Number of inlets in system [NINLET] =      1
----------------------   Total minor system capacity          =    .030  (cms)
                         Total major system storage [TMJSTO] =    730.(cu.m.)

                   ID: NHYD        AREA     QPEAK     TPEAK     R.V.      DWF
                                    (ha)     (cms)     (hrs)     (mm)     (cms)
     TOTAL HYD.   03:C305          2.61      .924     1.000   45.176     .000
     ================================================================
     MAJOR SYST   07:toWT3          .38      .159     1.300   45.176     .000
     MINOR SYST   04:toPD          2.23      .030      .467   45.215     .000

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

     Maximum MAJOR SYSTEM storage used =     730.(cu.m.)

--------------------------------------------------------------------------------
001:0334--------------------------------------------------------------------------
----------------------
| CALIB NASHYD       |   Area    (ha)=    1.77   Curve Number   (CN)=36.00
| 03:C306   DT= 1.00 |   Ia      (mm)=    8.000   # of Linear Res.(N)= 3.00
----------------------   U.H. Tp(hrs)=     .580
```

```
07831>
07832>      Unit Hyd Qpeak  (cms)=     .117
07833>
07834>      PEAK FLOW       (cms)=     .023 (i)
07835>      TIME TO PEAK    (hrs)=    1.817
07836>      RUNOFF VOLUME    (mm)=    7.392
07837>      TOTAL RAINFALL   (mm)=   69.590
07838>      RUNOFF COEFFICIENT   =     .106
07839>
07840>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
07841>
07842> ---------------------------------------------------------------------------
07843> 001:0335-----------------------------------------------------------------
07844> ----------------------
07845> | ADD HYD (WEST-T    ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
07846> ----------------------                   (ha)     (cms)   (hrs)   (mm)    (cms)
07847>                        ID1 01:C210          .39     .212    1.00  61.73    .000
07848>                       +ID2 02:C307          .27     .090    1.02  43.94    .000
07849>                       +ID3 03:C306         1.77     .023    1.82   7.39    .000
07850>                       +ID4 04:toPD         2.23     .030     .47  45.21    .000
07851>                       +ID5 06:toWT2         .47     .109     .95  41.85    .000
07852>                       +ID6 07:toWT3         .38     .159    1.30  45.18    .000
07853>                        ==========================================================
07854>                        SUM 08:WEST-T        5.51     .437    1.00  33.89    .000
07855>
07856>    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
07857>
07858> ---------------------------------------------------------------------------
07859> 001:0336-----------------------------------------------------------------
07860> ----------------------
07861> | CALIB NASHYD       |   Area    (ha)=    7.88   Curve Number   (CN)=32.00
07862> | 01:C301   DT= 1.00 |   Ia      (mm)=   8.000   # of Linear Res.(N)= 3.00
07863> ----------------------   U.H. Tp(hrs)=    .510
07864>
07865>      Unit Hyd Qpeak  (cms)=     .590
07866>
07867>      PEAK FLOW       (cms)=     .093 (i)
07868>      TIME TO PEAK    (hrs)=    1.717
07869>      RUNOFF VOLUME    (mm)=    6.308
07870>      TOTAL RAINFALL   (mm)=   69.590
07871>      RUNOFF COEFFICIENT   =     .091
07872>
07873>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
07874>
07875> ---------------------------------------------------------------------------
07876> 001:0337-----------------------------------------------------------------
07877> *#*************************************************************************
07878> *#
07879> *#                                        100-year
07880> *#                                        ========
07881> *#
07882> *#*************************************************************************
07883> --------------------
07884> | CHICAGO STORM    |    IDF curve parameters: A=2561.151
07885> | Ptotal= 76.22 mm |                          B=   9.093
07886> --------------------                          C=    .880
07887>                        used in:   INTENSITY =  A / (t + B)^C
07888>
07889>                        Duration of storm  =  3.00 hrs
07890>                        Storm time step    =  5.00 min
07891>                        Time to peak ratio =   .33
07892>
07893>              TIME    RAIN |   TIME    RAIN |   TIME    RAIN |   TIME    RAIN
07894>               hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr
07895>               .08   4.566 |    .83  37.249 |   1.58  16.692 |   2.33   6.431
07896>               .17   5.082 |    .92  92.269 |   1.67  14.280 |   2.42   6.009
07897>               .25   5.730 |   1.00 249.639 |   1.75  12.446 |   2.50   5.639
07898>               .33   6.565 |   1.08 119.567 |   1.83  11.010 |   2.58   5.311
07899>               .42   7.680 |   1.17  66.191 |   1.92   9.859 |   2.67   5.019
07900>               .50   9.235 |   1.25  43.702 |   2.00   8.919 |   2.75   4.758
07901>               .58  11.535 |   1.33  31.833 |   2.08   8.137 |   2.83   4.522
07902>               .67  15.235 |   1.42  24.683 |   2.17   7.478 |   2.92   4.309
07903>               .75  21.985 |   1.50  19.982 |   2.25   6.916 |   3.00   4.116
07904>
07905> ---------------------------------------------------------------------------
07906> 001:0338-----------------------------------------------------------------
07907> *#*************************************************************************
07908> *#                                ====================
07909> *#                                 EXISTING CONDITIONS
07910> *#                                ====================
07911> *#*************************************************************************
07912> ----------------------
07913> | CALIB STANDHYD     |   Area    (ha)=   18.54
07914> | 01:EX-1    DT= 1.00 |   Total Imp(%)=   35.00   Dir. Conn.(%)=   25.00
07915> ----------------------
07916>                                IMPERVIOUS    PERVIOUS (i)
07917>      Surface Area     (ha)=       6.49        12.05
07918>      Dep. Storage     (mm)=       2.00         5.00
07919>      Average Slope     (%)=       1.00         2.00
07920>      Length            (m)=      90.00        50.00
07921>      Mannings n            =       .013         .250
07922>
07923>      Max.eff.Inten.(mm/hr)=     249.64        26.87
07924>                  over (min)        2.00        15.00
07925>      Storage Coeff.  (min)=       1.66 (ii)   15.31 (ii)
07926>      Unit Hyd. Tpeak (min)=       2.00        15.00
07927>      Unit Hyd. peak  (cms)=        .63          .07
07928>                                                          *TOTALS*
07929>      PEAK FLOW       (cms)=       3.06          .53         3.141 (iii)
07930>      TIME TO PEAK    (hrs)=       1.00         1.30         1.000
07931>      RUNOFF VOLUME    (mm)=      74.21        12.41        27.865
07932>      TOTAL RAINFALL   (mm)=      76.22        76.22        76.215
07933>      RUNOFF COEFFICIENT   =        .97          .16          .366
07934>
07935>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
07936>            CN* =  39.0    Ia = Dep. Storage  (Above)
07937>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
07938>            THAN THE STORAGE COEFFICIENT.
07939>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
07940>
07941> ---------------------------------------------------------------------------
07942> 001:0339-----------------------------------------------------------------
07943> ----------------------
07944> | CALIB NASHYD       |   Area    (ha)=    9.06   Curve Number   (CN)=40.00
07945> | 02:C101   DT= 1.00 |   Ia      (mm)=   8.000   # of Linear Res.(N)= 3.00
07946> ----------------------   U.H. Tp(hrs)=    .510
07947>
07948>      Unit Hyd Qpeak  (cms)=     .679
07949>
07950>      PEAK FLOW       (cms)=     .179 (i)
07951>      TIME TO PEAK    (hrs)=    1.717
07952>      RUNOFF VOLUME    (mm)=   10.359
07953>      TOTAL RAINFALL   (mm)=   76.215
07954>      RUNOFF COEFFICIENT   =     .136
07955>
07956>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
07957>
07958> ---------------------------------------------------------------------------
07959> 001:0340-----------------------------------------------------------------
07960> ----------------------
07961> | CALIB NASHYD       |   Area    (ha)=   13.09   Curve Number   (CN)=47.00
07962> | 03:C102   DT= 1.00 |   Ia      (mm)=   8.000   # of Linear Res.(N)= 3.00
07963> ----------------------   U.H. Tp(hrs)=    .850
07964>
07965>      Unit Hyd Qpeak  (cms)=     .588
07966>
07967>      PEAK FLOW       (cms)=     .231 (i)
07968>      TIME TO PEAK    (hrs)=    2.150
07969>      RUNOFF VOLUME    (mm)=   13.121
07970>      TOTAL RAINFALL   (mm)=   76.215
07971>      RUNOFF COEFFICIENT   =     .172
07972>
07973>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
07974>
07975> ---------------------------------------------------------------------------
07976> 001:0341-----------------------------------------------------------------
07977> ----------------------
07978> | CALIB STANDHYD     |   Area    (ha)=    .61
07979> | 04:C108   DT= 1.00 |   Total Imp(%)=   75.00   Dir. Conn.(%)=   1.00
07980> ----------------------
07981>                                IMPERVIOUS    PERVIOUS (i)
07982>      Surface Area     (ha)=       .46          .15
07983>      Dep. Storage     (mm)=      2.00         5.00
07984>      Average Slope     (%)=      1.00         2.00
07985>      Length            (m)=     90.00        40.00
07986>      Mannings n            =      .013         .250
07987>
07988>      Max.eff.Inten.(mm/hr)=    249.64       348.58
07989>                  over (min)       2.00         6.00
07990>      Storage Coeff.  (min)=      1.66 (ii)    5.95 (ii)
07991>      Unit Hyd. Tpeak (min)=      2.00         6.00
07992>      Unit Hyd. peak  (cms)=       .63          .19
07993>                                                          *TOTALS*
07994>      PEAK FLOW       (cms)=       .00          .10          .104 (iii)
07995>      TIME TO PEAK    (hrs)=      1.00         1.08         1.083
07996>      RUNOFF VOLUME    (mm)=     74.22        32.05        32.473
07997>      TOTAL RAINFALL   (mm)=     76.22        76.22        76.215
07998>      RUNOFF COEFFICIENT   =       .97          .42          .426
07999>
08000>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
08001>            CN* =  39.0    Ia = Dep. Storage  (Above)
08002>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
08003>            THAN THE STORAGE COEFFICIENT.
08004>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
08005>
08006> ---------------------------------------------------------------------------
08007> 001:0342-----------------------------------------------------------------
08008> ----------------------
08009> | ADD HYD (CENTER-W  ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
08010> ----------------------                   (ha)     (cms)   (hrs)   (mm)    (cms)
08011>                        ID1 03:C102         13.09     .231    2.15  13.12    .000
08012>                       +ID2 04:C108           .61     .104    1.08  32.47    .000
08013>                        ==========================================================
08014>                        SUM 05:CENTER-W      13.70     .240    2.12  13.98    .000
08015>
08016>    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
08017>
08018> ---------------------------------------------------------------------------
08019> 001:0343-----------------------------------------------------------------
08020> ----------------------
08021> | CALIB NASHYD       |   Area    (ha)=    9.17   Curve Number   (CN)=64.00
08022> | 03:C104   DT= 1.00 |   Ia      (mm)=   8.000   # of Linear Res.(N)= 3.00
08023> ----------------------   U.H. Tp(hrs)=    .590
08024>
08025>      Unit Hyd Qpeak  (cms)=     .594
08026>
08027>      PEAK FLOW       (cms)=     .358 (i)
08028>      TIME TO PEAK    (hrs)=    1.783
08029>      RUNOFF VOLUME    (mm)=   22.044
08030>      TOTAL RAINFALL   (mm)=   76.215
08031>      RUNOFF COEFFICIENT   =     .289
08032>
08033>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
08034>
08035> ---------------------------------------------------------------------------
08036> 001:0344-----------------------------------------------------------------
08037> ----------------------
08038> | CALIB STANDHYD     |   Area    (ha)=    1.63
08039> | 04:C105   DT= 1.00 |   Total Imp(%)=   56.00   Dir. Conn.(%)=   50.00
08040> ----------------------
08041>                                IMPERVIOUS    PERVIOUS (i)
08042>      Surface Area     (ha)=       .91          .72
08043>      Dep. Storage     (mm)=      2.00         5.00
08044>      Average Slope     (%)=      1.00         2.00
08045>      Length            (m)=     90.00        40.00
08046>      Mannings n            =      .013         .250
08047>
08048>      Max.eff.Inten.(mm/hr)=    249.64        26.68
08049>                  over (min)       2.00        14.00
08050>      Storage Coeff.  (min)=      1.66 (ii)   13.64 (ii)
08051>      Unit Hyd. Tpeak (min)=      2.00        14.00
08052>      Unit Hyd. peak  (cms)=       .63          .08
08053>                                                          *TOTALS*
08054>      PEAK FLOW       (cms)=       .54          .03          .544 (iii)
08055>      TIME TO PEAK    (hrs)=      1.00         1.28         1.000
08056>      RUNOFF VOLUME    (mm)=     74.21        12.24        43.227
08057>      TOTAL RAINFALL   (mm)=     76.22        76.22        76.215
08058>      RUNOFF COEFFICIENT   =       .97          .16          .567
08059>
08060>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
08061>            CN* =  39.0    Ia = Dep. Storage  (Above)
08062>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
08063>            THAN THE STORAGE COEFFICIENT.
08064>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
08065>
08066> ---------------------------------------------------------------------------
08067> 001:0345-----------------------------------------------------------------
08068> ----------------------
08069> | ADD HYD (EAST-T    ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
08070> ----------------------                   (ha)     (cms)   (hrs)   (mm)    (cms)
08071>                        ID1 01:EX-1         18.54    3.141    1.00  27.86    .000
08072>                       +ID2 03:C104          9.17     .358    1.78  22.04    .000
08073>                       +ID3 04:C105          1.63     .544    1.00  43.23    .000
08074>                        ==========================================================
08075>                        SUM 06:EAST-T        29.34    3.693    1.00  26.90    .000
08076>
08077>    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
08078>
08079> ---------------------------------------------------------------------------
08080> 001:0346-----------------------------------------------------------------
08081> ----------------------
08082> | CALIB NASHYD       |   Area    (ha)=    8.73   Curve Number   (CN)=62.00
08083> | 01:C103   DT= 1.00 |   Ia      (mm)=   8.000   # of Linear Res.(N)= 3.00
08084> ----------------------   U.H. Tp(hrs)=    .540
08085>
08086>      Unit Hyd Qpeak  (cms)=     .617
08087>
08088>      PEAK FLOW       (cms)=     .341 (i)
08089>      TIME TO PEAK    (hrs)=    1.733
08090>      RUNOFF VOLUME    (mm)=   20.784
08091>      TOTAL RAINFALL   (mm)=   76.215
08092>      RUNOFF COEFFICIENT   =     .273
08093>
08094>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
08095>
08096> ---------------------------------------------------------------------------
08097> 001:0347-----------------------------------------------------------------
08098> ----------------------
08099> | CALIB STANDHYD     |   Area    (ha)=    .47
08100> | 03:C106   DT= 1.00 |   Total Imp(%)=   75.00   Dir. Conn.(%)=   1.00
```

```
08101> ----------------------
08102>                              IMPERVIOUS    PERVIOUS (i)
08103>      Surface Area     (ha)=       .35          .12
08104>      Dep. Storage     (mm)=      2.00         5.00
08105>      Average Slope     (%)=      1.00         2.00
08106>      Length            (m)=     90.00        40.00
08107>      Mannings n            =      .013         .250
08108>
08109>      Max.eff.Inten.(mm/hr)=    249.64       348.58
08110>                 over (min)       2.00         6.00
08111>      Storage Coeff.  (min)=      1.66 (ii)    5.95 (ii)
08112>      Unit Hyd. Tpeak (min)=      2.00         6.00
08113>      Unit Hyd. peak  (cms)=       .63          .19
08114>                                                        *TOTALS*
08115>      PEAK FLOW       (cms)=       .00          .08          .080 (iii)
08116>      TIME TO PEAK    (hrs)=      1.00         1.08         1.083
08117>      RUNOFF VOLUME    (mm)=     74.22        32.05        32.473
08118>      TOTAL RAINFALL   (mm)=     76.22        76.22        76.215
08119>      RUNOFF COEFFICIENT   =       .97          .42          .426
08120>
08121>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
08122>            CN* =  39.0    Ia = Dep. Storage  (Above)
08123>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
08124>            THAN THE STORAGE COEFFICIENT.
08125>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
08126>
08127> --------------------------------------------------------------------------------
08128> 001:0348--------------------------------------------------------------------------
08129> ----------------------
08130> | CALIB STANDHYD     |   Area    (ha)=     .54
08131> | 04:C107   DT= 1.00 |   Total Imp(%)=   75.00   Dir. Conn.(%)=    1.00
08132> ----------------------
08133>                              IMPERVIOUS    PERVIOUS (i)
08134>      Surface Area     (ha)=       .41          .14
08135>      Dep. Storage     (mm)=      2.00         5.00
08136>      Average Slope     (%)=      1.00         2.00
08137>      Length            (m)=     90.00        40.00
08138>      Mannings n            =      .013         .250
08139>
08140>      Max.eff.Inten.(mm/hr)=    249.64       348.58
08141>                 over (min)       2.00         6.00
08142>      Storage Coeff.  (min)=      1.66 (ii)    5.95 (ii)
08143>      Unit Hyd. Tpeak (min)=      2.00         6.00
08144>      Unit Hyd. peak  (cms)=       .63          .19
08145>                                                        *TOTALS*
08146>      PEAK FLOW       (cms)=       .00          .09          .092 (iii)
08147>      TIME TO PEAK    (hrs)=      1.00         1.08         1.083
08148>      RUNOFF VOLUME    (mm)=     74.22        32.05        32.473
08149>      TOTAL RAINFALL   (mm)=     76.22        76.22        76.215
08150>      RUNOFF COEFFICIENT   =       .97          .42          .426
08151>
08152>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
08153>            CN* =  39.0    Ia = Dep. Storage  (Above)
08154>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
08155>            THAN THE STORAGE COEFFICIENT.
08156>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
08157>
08158> --------------------------------------------------------------------------------
08159> 001:0349--------------------------------------------------------------------------
08160> ----------------------
08161> | ADD HYD (WEST-T    ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
08162> ----------------------                    (ha)     (cms)   (hrs)   (mm)    (cms)
08163>                       ID1 01:C103          8.73     .341    1.73  20.78    .000
08164>                      +ID2 03:C106           .47     .080    1.08  32.47    .000
08165>                      +ID3 04:C107           .54     .092    1.08  32.47    .000
08166>                       ==========================================================
08167>                       SUM 07:WEST-T        9.74     .372    1.68  22.00    .000
08168>
08169>    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
08170>
08171> --------------------------------------------------------------------------------
08172> 001:0350--------------------------------------------------------------------------
08173> ----------------------
08174> | CALIB STANDHYD     |   Area    (ha)=     .17
08175> | 01:C109   DT= 1.00 |   Total Imp(%)=   75.00   Dir. Conn.(%)=    1.00
08176> ----------------------
08177>                              IMPERVIOUS    PERVIOUS (i)
08178>      Surface Area     (ha)=       .13          .04
08179>      Dep. Storage     (mm)=      2.00         5.00
08180>      Average Slope     (%)=      1.00         2.00
08181>      Length            (m)=     90.00        40.00
08182>      Mannings n            =      .013         .250
08183>
08184>      Max.eff.Inten.(mm/hr)=    249.64       348.58
08185>                 over (min)       2.00         6.00
08186>      Storage Coeff.  (min)=      1.66 (ii)    5.95 (ii)
08187>      Unit Hyd. Tpeak (min)=      2.00         6.00
08188>      Unit Hyd. peak  (cms)=       .63          .19
08189>                                                        *TOTALS*
08190>      PEAK FLOW       (cms)=       .00          .03          .029 (iii)
08191>      TIME TO PEAK    (hrs)=      1.00         1.08         1.083
08192>      RUNOFF VOLUME    (mm)=     74.22        32.05        32.473
08193>      TOTAL RAINFALL   (mm)=     76.22        76.22        76.215
08194>      RUNOFF COEFFICIENT   =       .97          .42          .426
08195>
08196>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
08197>            CN* =  39.0    Ia = Dep. Storage  (Above)
08198>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
08199>            THAN THE STORAGE COEFFICIENT.
08200>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
08201>
08202> --------------------------------------------------------------------------------
08203> 001:0351--------------------------------------------------------------------------
08204> *#*************************************************************************
08205> *#                          ========================================
08206> *#                           PROSPOSED INTERIM DEVELOPMENT CONDITIONS
08207> *#                          ========================================
08208> *#*************************************************************************
08209> ----------------------
08210> | CALIB STANDHYD     |   Area    (ha)=    9.66
08211> | 01:C202   DT= 1.00 |   Total Imp(%)=   40.00   Dir. Conn.(%)=   30.00
08212> ----------------------
08213>                              IMPERVIOUS    PERVIOUS (i)
08214>      Surface Area     (ha)=      3.86         5.80
08215>      Dep. Storage     (mm)=      2.00         5.00
08216>      Average Slope     (%)=      1.00         2.00
08217>      Length            (m)=     90.00        25.00
08218>      Mannings n            =      .013         .250
08219>
08220>      Max.eff.Inten.(mm/hr)=    249.64        32.35
08221>                 over (min)       2.00        10.00
08222>      Storage Coeff.  (min)=      1.66 (ii)   10.02 (ii)
08223>      Unit Hyd. Tpeak (min)=      2.00        10.00
08224>      Unit Hyd. peak  (cms)=       .63          .11
08225>                                                        *TOTALS*
08226>      PEAK FLOW       (cms)=      1.91          .32         1.999 (iii)
08227>      TIME TO PEAK    (hrs)=      1.00         1.20         1.000
08228>      RUNOFF VOLUME    (mm)=     74.22        12.54        31.045
08229>      TOTAL RAINFALL   (mm)=     76.22        76.22        76.215
08230>      RUNOFF COEFFICIENT   =       .97          .16          .407
08231>
08232>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
08233>            CN* =  39.0    Ia = Dep. Storage  (Above)
08234>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
08235>            THAN THE STORAGE COEFFICIENT.
08236>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
08237>
08238> --------------------------------------------------------------------------------
08239> 001:0352--------------------------------------------------------------------------
08240> ----------------------
08241> | CALIB STANDHYD     |   Area    (ha)=     .44
08242> | 02:C207   DT= 1.00 |   Total Imp(%)=   35.00   Dir. Conn.(%)=   25.00
08243> ----------------------
08244>                              IMPERVIOUS    PERVIOUS (i)
08245>      Surface Area     (ha)=       .15          .29
08246>      Dep. Storage     (mm)=      2.00         5.00
08247>      Average Slope     (%)=      1.00         2.00
08248>      Length            (m)=     90.00        25.00
08249>      Mannings n            =      .013         .250
08250>
08251>      Max.eff.Inten.(mm/hr)=    249.64        31.64
08252>                 over (min)       2.00        10.00
08253>      Storage Coeff.  (min)=      1.66 (ii)   10.10 (ii)
08254>      Unit Hyd. Tpeak (min)=      2.00        10.00
08255>      Unit Hyd. peak  (cms)=       .63          .11
08256>                                                        *TOTALS*
08257>      PEAK FLOW       (cms)=       .07          .02          .077 (iii)
08258>      TIME TO PEAK    (hrs)=      1.00         1.20         1.000
08259>      RUNOFF VOLUME    (mm)=     74.21        12.41        27.865
08260>      TOTAL RAINFALL   (mm)=     76.22        76.22        76.215
08261>      RUNOFF COEFFICIENT   =       .97          .16          .366
08262>
08263>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
08264>            CN* =  39.0    Ia = Dep. Storage  (Above)
08265>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
08266>            THAN THE STORAGE COEFFICIENT.
08267>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
08268>
08269> --------------------------------------------------------------------------------
08270> 001:0353--------------------------------------------------------------------------
08271> ----------------------
08272> | COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .064  (cms)
08273> | TotalHyd 02:C207   |   Number of inlets in system [NINLET] =      1
08274> ----------------------   Total minor system capacity         =    .064  (cms)
08275>                          Total major system storage [TMJSTO] =      0.(cu.m.)
08276>
08277>                     ID: NHYD        AREA     QPEAK     TPEAK     R.V.      DWF
08278>                                     (ha)     (cms)     (hrs)     (mm)     (cms)
08279>      TOTAL HYD.   02:C207           .44      .077     1.000   27.865     .000
08280>      ================================================================================
08281>      MAJOR SYST   04:toET1           .01      .013     1.000   27.865     .000
08282>      MINOR SYST   03:toSWMF          .43      .064      .967   27.865     .000
08283>
08284>      NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
08285>
08286> --------------------------------------------------------------------------------
08287> 001:0354--------------------------------------------------------------------------
08288> ----------------------
08289> | CALIB STANDHYD     |   Area    (ha)=     .93
08290> | 02:C208   DT= 1.00 |   Total Imp(%)=   35.00   Dir. Conn.(%)=   25.00
08291> ----------------------
08292>                              IMPERVIOUS    PERVIOUS (i)
08293>      Surface Area     (ha)=       .33          .60
08294>      Dep. Storage     (mm)=      2.00         5.00
08295>      Average Slope     (%)=      1.00         2.00
08296>      Length            (m)=     90.00        25.00
08297>      Mannings n            =      .013         .250
08298>
08299>      Max.eff.Inten.(mm/hr)=    249.64        31.64
08300>                 over (min)       2.00        10.00
08301>      Storage Coeff.  (min)=      1.66 (ii)   10.10 (ii)
08302>      Unit Hyd. Tpeak (min)=      2.00        10.00
08303>      Unit Hyd. peak  (cms)=       .63          .11
08304>                                                        *TOTALS*
08305>      PEAK FLOW       (cms)=       .15          .03          .162 (iii)
08306>      TIME TO PEAK    (hrs)=      1.00         1.20         1.000
08307>      RUNOFF VOLUME    (mm)=     74.22        12.41        27.865
08308>      TOTAL RAINFALL   (mm)=     76.22        76.22        76.215
08309>      RUNOFF COEFFICIENT   =       .97          .16          .366
08310>
08311>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
08312>            CN* =  39.0    Ia = Dep. Storage  (Above)
08313>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
08314>            THAN THE STORAGE COEFFICIENT.
08315>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
08316>
08317> --------------------------------------------------------------------------------
08318> 001:0355--------------------------------------------------------------------------
08319> ----------------------
08320> | COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .119  (cms)
08321> | TotalHyd 02:C208   |   Number of inlets in system [NINLET] =      1
08322> ----------------------   Total minor system capacity         =    .119  (cms)
08323>                          Total major system storage [TMJSTO] =      0.(cu.m.)
08324>
08325>                     ID: NHYD        AREA     QPEAK     TPEAK     R.V.      DWF
08326>                                     (ha)     (cms)     (hrs)     (mm)     (cms)
08327>      TOTAL HYD.   02:C208           .93      .162     1.000   27.865     .000
08328>      ================================================================================
08329>      MAJOR SYST   06:toET2           .03      .043     1.000   27.865     .000
08330>      MINOR SYST   05:toSWMF          .90      .119      .967   27.865     .000
08331>
08332>      NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
08333>
08334> --------------------------------------------------------------------------------
08335> 001:0356--------------------------------------------------------------------------
08336> ----------------------
08337> | CALIB STANDHYD     |   Area    (ha)=    1.29
08338> | 02:C203   DT= 1.00 |   Total Imp(%)=   68.00   Dir. Conn.(%)=   66.00
08339> ----------------------
08340>                              IMPERVIOUS    PERVIOUS (i)
08341>      Surface Area     (ha)=       .88          .41
08342>      Dep. Storage     (mm)=      2.00         5.00
08343>      Average Slope     (%)=       .50         2.00
08344>      Length            (m)=    100.00       100.00
08345>      Mannings n            =      .013         .250
08346>
08347>      Max.eff.Inten.(mm/hr)=    249.64        16.59
08348>                 over (min)       2.00        27.00
08349>      Storage Coeff.  (min)=      2.18 (ii)   27.27 (ii)
08350>      Unit Hyd. Tpeak (min)=      2.00        27.00
08351>      Unit Hyd. peak  (cms)=       .53          .04
08352>                                                        *TOTALS*
08353>      PEAK FLOW       (cms)=       .54          .01          .539 (iii)
08354>      TIME TO PEAK    (hrs)=      1.00         1.52         1.000
08355>      RUNOFF VOLUME    (mm)=     74.21        11.48        52.885
08356>      TOTAL RAINFALL   (mm)=     76.22        76.22        76.215
08357>      RUNOFF COEFFICIENT   =       .97          .15          .694
08358>
08359>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
08360>            CN* =  39.0    Ia = Dep. Storage  (Above)
08361>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
08362>            THAN THE STORAGE COEFFICIENT.
08363>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
08364>
08365> --------------------------------------------------------------------------------
08366> 001:0357--------------------------------------------------------------------------
08367> ----------------------
08368> | ADD HYD (toSWMF    ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
08369> ----------------------                    (ha)     (cms)   (hrs)   (mm)    (cms)
08370>                       ID1 01:C202          9.66    1.999    1.00  31.05    .000
```

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                    +ID2 02:C203          1.29     .539    1.00  52.89    .000
                    +ID3 03:toSWMF1        .43     .064     .97  27.86    .000
                    +ID4 05:toSWMF2        .90     .119     .97  27.86    .000
                     ============================================================
                     SUM 07:toSWMF        12.28    2.721    1.00  32.99    .000

   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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001:0358--------------------------------------------------------------------------
----------------------
| ROUTE RESERVOIR    |    Requested routing time step =  1.0 min.
|  IN>07:(toSWMF)    |
| OUT<01:(SWMF  )    |    =========  OUTLFOW STORAGE TABLE  =========
----------------------    OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
                            (cms)     (ha.m.)   |    (cms)    (ha.m.)
                             .000  .0000E+00    |     .340  .2740E+00
                             .011  .2900E-01    |     .697  .3140E+00
                             .015  .6000E-01    |    1.206  .3540E+00
                             .019  .9200E-01    |    1.880  .3960E+00
                             .022  .1260E+00    |    2.734  .4380E+00
                             .024  .1610E+00    |    3.779  .4820E+00
                             .027  .1980E+00    |    5.029  .5260E+00
                             .120  .2360E+00    |     .000  .0000E+00

     ROUTING RESULTS            AREA     QPEAK     TPEAK       R.V.
     -------------------         (ha)     (cms)     (hrs)       (mm)
     INFLOW >07: (toSWMF)      12.28     2.721     1.000     32.994
     OUTFLOW<01: (SWMF  )      12.28      .360     1.617     32.993
    OVERFLOW<02: (OverQ )        .00      .000      .000       .000

                    TOTAL NUMBER OF SIMULATED OVERFLOWS  =        0
                    CUMULATIVE TIME OF OVERFLOWS  (hours)=      .00
                    PERCENTAGE OF TIME OVERFLOWING    (%)=      .00


                    PEAK   FLOW   REDUCTION [Qout/Qin](%)=   13.222
                    TIME SHIFT OF PEAK FLOW       (min)=    37.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=.2762E+00

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001:0359--------------------------------------------------------------------------
----------------------
| CALIB STANDHYD     |   Area    (ha)=   18.54
| 03:EX-2   DT= 1.00 |   Total Imp(%)=   35.00   Dir. Conn.(%)=   25.00
----------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      6.49        12.05
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      1.00         2.00
     Length            (m)=     90.00        50.00
     Mannings n             =    .013         .250

     Max.eff.Inten.(mm/hr)=    249.64        26.87
                   over (min)      2.00        15.00
     Storage Coeff.  (min)=      1.66 (ii)   15.31 (ii)
     Unit Hyd. Tpeak (min)=      2.00        15.00
     Unit Hyd. peak  (cms)=       .63          .07
                                                      *TOTALS*
     PEAK FLOW       (cms)=      3.06          .53      3.141 (iii)
     TIME TO PEAK    (hrs)=      1.00         1.30      1.000
     RUNOFF VOLUME    (mm)=     74.21        12.41     27.865
     TOTAL RAINFALL   (mm)=     76.22        76.22     76.215
     RUNOFF COEFFICIENT   =       .97          .16       .366

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  39.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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001:0360--------------------------------------------------------------------------
----------------------
| CALIB STANDHYD     |   Area    (ha)=    .51
| 05:C209   DT= 1.00 |   Total Imp(%)=   61.00   Dir. Conn.(%)=   55.00
----------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       .31          .20
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      1.00         2.00
     Length            (m)=     90.00        10.00
     Mannings n             =    .013         .250

     Max.eff.Inten.(mm/hr)=    249.64        34.56
                   over (min)      2.00         6.00
     Storage Coeff.  (min)=      1.66 (ii)    6.36 (ii)
     Unit Hyd. Tpeak (min)=      2.00         6.00
     Unit Hyd. peak  (cms)=       .63          .18
                                                      *TOTALS*
     PEAK FLOW       (cms)=       .19          .01       .192 (iii)
     TIME TO PEAK    (hrs)=      1.00         1.12      1.000
     RUNOFF VOLUME    (mm)=     74.21        12.41     46.405
     TOTAL RAINFALL   (mm)=     76.22        76.22     76.215
     RUNOFF COEFFICIENT   =       .97          .16       .609

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  39.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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001:0361--------------------------------------------------------------------------
----------------------
| COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .109  (cms)
| TotalHyd 05:C209   |   Number of inlets in system [NINLET] =      1
----------------------   Total minor system capacity           =    .109  (cms)
                         Total major system storage [TMJSTO] =       0.(cu.m.)

                  ID: NHYD        AREA     QPEAK     TPEAK     R.V.      DWF
                                   (ha)     (cms)     (hrs)     (mm)     (cms)
     TOTAL HYD.   05:C209          .51      .192     1.000   46.405     .000
     ============================================================================
     MAJOR SYST   08:toET3         .05      .082     1.000   46.405     .000
     MINOR SYST   07:toWT1         .46      .109      .950   46.405     .000

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
001:0362--------------------------------------------------------------------------
------------------------
| ADD HYD (EAST-T    ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
------------------------                   (ha)     (cms)   (hrs)   (mm)   (cms)
                         ID1 01:SWMF       12.28     .360    1.62  32.99    .000
                        +ID2 02:OverQ        .00     .000     .00    .00    .000
                        +ID3 03:EX-2       18.54    3.141    1.00  27.86    .000
                        +ID4 04:toET1        .01     .013    1.00  27.86    .000
                        +ID5 06:toET2        .03     .043    1.00  27.86    .000
                        +ID6 08:toET3        .05     .082    1.00  46.41    .000
                         ============================================================
                         SUM 05:EAST-T      30.91    3.300    1.00  29.93    .000

   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
001:0363--------------------------------------------------------------------------
----------------------
| CALIB STANDHYD     |   Area    (ha)=    .39
| 01:C210   DT= 1.00 |   Total Imp(%)=   90.00   Dir. Conn.(%)=   90.00
----------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       .35          .04
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      1.00         2.00
     Length            (m)=     90.00        10.00
     Mannings n             =    .013         .250

     Max.eff.Inten.(mm/hr)=    249.64        25.02
                   over (min)      2.00         7.00
     Storage Coeff.  (min)=      1.66 (ii)    7.01 (ii)
     Unit Hyd. Tpeak (min)=      2.00         7.00
     Unit Hyd. peak  (cms)=       .63          .16
                                                      *TOTALS*
     PEAK FLOW       (cms)=       .23          .00       .233 (iii)
     TIME TO PEAK    (hrs)=      1.00         1.15      1.000
     RUNOFF VOLUME    (mm)=     74.21        10.83     67.876
     TOTAL RAINFALL   (mm)=     76.22        76.22     76.215
     RUNOFF COEFFICIENT   =       .97          .14       .891

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  39.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
001:0364--------------------------------------------------------------------------
----------------------
| CALIB NASHYD       |   Area    (ha)=    7.98   Curve Number   (CN)=62.00
| 02:C206   DT= 1.00 |   Ia      (mm)=   8.000   # of Linear Res.(N)= 3.00
----------------------   U.H. Tp(hrs)=    .540

     Unit Hyd Qpeak  (cms)=     .564

     PEAK FLOW       (cms)=     .312 (i)
     TIME TO PEAK    (hrs)=    1.733
     RUNOFF VOLUME    (mm)=   20.784
     TOTAL RAINFALL   (mm)=   76.215
     RUNOFF COEFFICIENT   =     .273

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
001:0365--------------------------------------------------------------------------
----------------------
| CALIB STANDHYD     |   Area    (ha)=    .54
| 03:C107   DT= 1.00 |   Total Imp(%)=   75.00   Dir. Conn.(%)=    1.00
----------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       .41          .14
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      1.00         2.00
     Length            (m)=     90.00        40.00
     Mannings n             =    .013         .250

     Max.eff.Inten.(mm/hr)=    249.64       348.58
                   over (min)      2.00         6.00
     Storage Coeff.  (min)=      1.66 (ii)    5.95 (ii)
     Unit Hyd. Tpeak (min)=      2.00         6.00
     Unit Hyd. peak  (cms)=       .63          .19
                                                      *TOTALS*
     PEAK FLOW       (cms)=       .00          .09       .092 (iii)
     TIME TO PEAK    (hrs)=      1.00         1.08      1.083
     RUNOFF VOLUME    (mm)=     74.22        32.05     32.473
     TOTAL RAINFALL   (mm)=     76.22        76.22     76.215
     RUNOFF COEFFICIENT   =       .97          .42       .426

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  39.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
001:0366--------------------------------------------------------------------------
------------------------
| ADD HYD (WEST-T    ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
------------------------                   (ha)     (cms)   (hrs)   (mm)   (cms)
                         ID1 01:C210         .39      .233    1.00  67.88    .000
                        +ID2 02:C206        7.98      .312    1.73  20.78    .000
                        +ID3 03:C107         .54      .092    1.08  32.47    .000
                        +ID4 07:toWT1        .46      .109     .95  46.41    .000
                         ============================================================
                         SUM 04:WEST-T      9.37      .404    1.00  24.68    .000

   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
001:0367--------------------------------------------------------------------------
----------------------
| CALIB NASHYD       |   Area    (ha)=    6.96   Curve Number   (CN)=32.00
| 01:C201   DT= 1.00 |   Ia      (mm)=   8.000   # of Linear Res.(N)= 3.00
----------------------   U.H. Tp(hrs)=    .510

     Unit Hyd Qpeak  (cms)=     .521

     PEAK FLOW       (cms)=     .101 (i)
     TIME TO PEAK    (hrs)=    1.717
     RUNOFF VOLUME    (mm)=    7.654
     TOTAL RAINFALL   (mm)=   76.215
     RUNOFF COEFFICIENT   =     .100

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
001:0368--------------------------------------------------------------------------
----------------------
| CALIB NASHYD       |   Area    (ha)=    2.04   Curve Number   (CN)=55.00
| 02:C204   DT= 1.00 |   Ia      (mm)=   8.000   # of Linear Res.(N)= 3.00
----------------------   U.H. Tp(hrs)=    .480

     Unit Hyd Qpeak  (cms)=     .162

     PEAK FLOW       (cms)=     .070 (i)
     TIME TO PEAK    (hrs)=    1.650
     RUNOFF VOLUME    (mm)=   16.858
     TOTAL RAINFALL   (mm)=   76.215
     RUNOFF COEFFICIENT   =     .221

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
001:0369--------------------------------------------------------------------------
------------------------
| ADD HYD (NORTH-W   ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
------------------------                   (ha)     (cms)   (hrs)   (mm)   (cms)
                         ID1 01:C201         .96      .101    1.72   7.65    .000
                        +ID2 02:C204        2.04      .070    1.65  16.86    .000
                         ============================================================
```

```
                    SUM 03:NORTH-W        9.00     .171    1.68   9.74    .000

   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

---------------------------------------------------------------------------------
001:0370---------------------------------------------------------------------------
----------------------
| CALIB NASHYD       |   Area    (ha)=   11.96   Curve Number    (CN)=44.00
| 01:C205   DT= 1.00 |   Ia      (mm)=   8.000   # of Linear Res.(N)= 3.00
----------------------  U.H. Tp(hrs)=    .870

     Unit Hyd Qpeak  (cms)=     .525

     PEAK FLOW       (cms)=     .187 (i)
     TIME TO PEAK    (hrs)=    2.167
     RUNOFF VOLUME    (mm)=   11.886
     TOTAL RAINFALL   (mm)=   76.215
     RUNOFF COEFFICIENT   =     .156

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

---------------------------------------------------------------------------------
001:0371---------------------------------------------------------------------------
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .61
| 02:C108   DT= 1.00 |   Total Imp(%)=   75.00   Dir. Conn.(%)=    1.00
----------------------

                             IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .46          .15
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      90.00        40.00
     Mannings n             =      .013         .250

     Max.eff.Inten.(mm/hr)=     249.64       348.58
                   over (min)       2.00         6.00
     Storage Coeff.  (min)=       1.66 (ii)    5.95 (ii)
     Unit Hyd. Tpeak (min)=       2.00         6.00
     Unit Hyd. peak  (cms)=        .63          .19
                                                          *TOTALS*
     PEAK FLOW       (cms)=        .00          .10          .104 (iii)
     TIME TO PEAK    (hrs)=       1.00         1.08         1.083
     RUNOFF VOLUME    (mm)=      74.22        32.05        32.473
     TOTAL RAINFALL   (mm)=      76.22        76.22        76.215
     RUNOFF COEFFICIENT   =        .97          .42          .426

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  39.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

---------------------------------------------------------------------------------
001:0372---------------------------------------------------------------------------
------------------------
| ADD HYD (CENTER-W  ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
------------------------                   (ha)     (cms)   (hrs)   (mm)    (cms)
                      ID1 01:C205         11.96     .187    2.17  11.89    .000
                     +ID2 02:C108           .61     .104    1.08  32.47    .000
                      ==========================================================
                      SUM 04:CENTER-W      12.57     .197    2.13  12.89    .000

   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

---------------------------------------------------------------------------------
001:0373---------------------------------------------------------------------------
*#*****************************************************************************
*#                          ==========================================
*#                           PROSPOSED ULTIMATE DEVELOPMENT CONDITIONS
*#                          ==========================================
*#*****************************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .43
| 01:B100   DT= 1.00 |   Total Imp(%)=   80.00   Dir. Conn.(%)=   60.00
----------------------

                             IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .34          .09
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      90.00        25.00
     Mannings n             =      .013         .250

     Max.eff.Inten.(mm/hr)=     249.64        97.50
                   over (min)       2.00         7.00
     Storage Coeff.  (min)=       1.66 (ii)    7.04 (ii)
     Unit Hyd. Tpeak (min)=       2.00         7.00
     Unit Hyd. peak  (cms)=        .63          .16
                                                          *TOTALS*
     PEAK FLOW       (cms)=        .17          .02          .177 (iii)
     TIME TO PEAK    (hrs)=       1.00         1.12         1.000
     RUNOFF VOLUME    (mm)=      74.21        19.95        52.510
     TOTAL RAINFALL   (mm)=      76.22        76.22        76.215
     RUNOFF COEFFICIENT   =        .97          .26          .689

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  39.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

---------------------------------------------------------------------------------
001:0374---------------------------------------------------------------------------
----------------------
| COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .077  (cms)
| TotalHyd 01:B100   |   Number of inlets in system [NINLET] =      1
----------------------  Total minor system capacity          =    .077  (cms)
                        Total major system storage [TMJSTO] =      0.(cu.m.)

                   ID: NHYD        AREA     QPEAK     TPEAK     R.V.      DWF
                                    (ha)     (cms)     (hrs)     (mm)    (cms)
     TOTAL HYD.   01:B100           .43      .177     1.000   52.510     .000
     ==========================================================================
     MAJOR SYST   03:toCW1          .07      .100     1.000   52.510     .000
     MINOR SYST   02:toSWMF         .36      .077      .933   52.510     .000

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

---------------------------------------------------------------------------------
001:0375---------------------------------------------------------------------------
----------------------
| CALIB STANDHYD     |   Area    (ha)=    4.00
| 01:C303   DT= 1.00 |   Total Imp(%)=   40.00   Dir. Conn.(%)=   30.00
----------------------

                             IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.60         2.40
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      90.00        25.00
     Mannings n             =      .013         .250

     Max.eff.Inten.(mm/hr)=     249.64        32.35
                   over (min)       2.00        10.00
     Storage Coeff.  (min)=       1.66 (ii)   10.02 (ii)
     Unit Hyd. Tpeak (min)=       2.00        10.00
     Unit Hyd. peak  (cms)=        .63          .11
                                                          *TOTALS*
     PEAK FLOW       (cms)=        .79          .13          .828 (iii)
     TIME TO PEAK    (hrs)=       1.00         1.20         1.000
     RUNOFF VOLUME    (mm)=      74.21        12.54        31.045
     TOTAL RAINFALL   (mm)=      76.22        76.22        76.215
     RUNOFF COEFFICIENT   =        .97          .16          .407

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  39.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

---------------------------------------------------------------------------------
001:0376---------------------------------------------------------------------------
----------------------
| COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .440  (cms)
| TotalHyd 01:C303   |   Number of inlets in system [NINLET] =      1
----------------------  Total minor system capacity          =    .440  (cms)
                        Total major system storage [TMJSTO] =      0.(cu.m.)

                   ID: NHYD        AREA     QPEAK     TPEAK     R.V.      DWF
                                    (ha)     (cms)     (hrs)     (mm)    (cms)
     TOTAL HYD.   01:C303          4.00      .828     1.000   31.045     .000
     ==========================================================================
     MAJOR SYST   05:toCW2          .40      .388     1.000   31.045     .000
     MINOR SYST   04:toSWMF        3.60      .440      .950   31.045     .000

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

---------------------------------------------------------------------------------
001:0377---------------------------------------------------------------------------
----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.14
| 01:C309   DT= 1.00 |   Total Imp(%)=   62.00   Dir. Conn.(%)=   57.00
----------------------

                             IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .71          .43
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      90.00        25.00
     Mannings n             =      .013         .250

     Max.eff.Inten.(mm/hr)=     249.64        30.42
                   over (min)       2.00        10.00
     Storage Coeff.  (min)=       1.66 (ii)   10.23 (ii)
     Unit Hyd. Tpeak (min)=       2.00        10.00
     Unit Hyd. peak  (cms)=        .63          .11
                                                          *TOTALS*
     PEAK FLOW       (cms)=        .43          .02          .435 (iii)
     TIME TO PEAK    (hrs)=       1.00         1.20         1.000
     RUNOFF VOLUME    (mm)=      74.21        12.19        47.544
     TOTAL RAINFALL   (mm)=      76.22        76.22        76.215
     RUNOFF COEFFICIENT   =        .97          .16          .624

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  39.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

---------------------------------------------------------------------------------
001:0378---------------------------------------------------------------------------
----------------------
| COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .237  (cms)
| TotalHyd 01:C309   |   Number of inlets in system [NINLET] =      1
----------------------  Total minor system capacity          =    .237  (cms)
                        Total major system storage [TMJSTO] =      0.(cu.m.)

                   ID: NHYD        AREA     QPEAK     TPEAK     R.V.      DWF
                                    (ha)     (cms)     (hrs)     (mm)    (cms)
     TOTAL HYD.   01:C309          1.14      .435     1.000   47.544     .000
     ==========================================================================
     MAJOR SYST   07:toCW3          .12      .198     1.000   47.544     .000
     MINOR SYST   06:toSWMF        1.02      .237      .950   47.544     .000

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

---------------------------------------------------------------------------------
001:0379---------------------------------------------------------------------------
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .27
| 01:C308   DT= 1.00 |   Total Imp(%)=   90.00   Dir. Conn.(%)=   90.00
----------------------

                             IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .24          .03
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      90.00        40.00
     Mannings n             =      .013         .250

     Max.eff.Inten.(mm/hr)=     249.64        20.16
                   over (min)       2.00        15.00
     Storage Coeff.  (min)=       1.66 (ii)   15.06 (ii)
     Unit Hyd. Tpeak (min)=       2.00        15.00
     Unit Hyd. peak  (cms)=        .63          .08
                                                          *TOTALS*
     PEAK FLOW       (cms)=        .16          .00          .161 (iii)
     TIME TO PEAK    (hrs)=       1.00         1.30         1.000
     RUNOFF VOLUME    (mm)=      74.21        10.83        67.876
     TOTAL RAINFALL   (mm)=      76.22        76.22        76.215
     RUNOFF COEFFICIENT   =        .97          .14          .891

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  39.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

---------------------------------------------------------------------------------
001:0380---------------------------------------------------------------------------
----------------------
| COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .025  (cms)
| TotalHyd 01:C308   |   Number of inlets in system [NINLET] =      1
----------------------  Total minor system capacity          =    .025  (cms)
                        Total major system storage [TMJSTO] =      0.(cu.m.)

                   ID: NHYD        AREA     QPEAK     TPEAK     R.V.      DWF
                                    (ha)     (cms)     (hrs)     (mm)    (cms)
     TOTAL HYD.   01:C308           .27      .161     1.000   67.876     .000
     ==========================================================================
     MAJOR SYST   09:toCW4          .12      .135     1.000   67.876     .000
     MINOR SYST   08:toSWMF         .15      .025      .850   67.876     .000

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

---------------------------------------------------------------------------------
001:0381---------------------------------------------------------------------------
----------------------
| CALIB NASHYD       |   Area    (ha)=    9.89   Curve Number    (CN)=34.00
| 01:C304   DT= 1.00 |   Ia      (mm)=   8.000   # of Linear Res.(N)= 3.00
----------------------  U.H. Tp(hrs)=    .510

     Unit Hyd Qpeak  (cms)=     .741
```

```
      PEAK FLOW       (cms)=     .156 (i)
      TIME TO PEAK    (hrs)=    1.717
      RUNOFF VOLUME    (mm)=    8.291
      TOTAL RAINFALL   (mm)=   76.215
      RUNOFF COEFFICIENT   =     .109

      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

001:0382

ADD HYD (CENTER-W)	ID: NHYD	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	DWF (cms)
	ID1 01:C304	9.89	.156	1.72	8.29	.000
	+ID2 03:toCW1	.07	.100	1.00	52.51	.000
	+ID3 05:toCW2	.40	.388	1.00	31.05	.000
	+ID4 07:toCW3	.12	.198	1.00	47.54	.000
	+ID5 09:toCW4	.12	.135	1.00	67.88	.000
	SUM 10:CENTER-W	10.59	.826	1.00	10.52	.000

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

001:0383

ROUTE RESERVOIR	IN>10:(CENTER)	OUT<01:(CW-SSD)

Requested routing time step = 1.0 min.

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
.000	.0000E+00	.222	.6400E+00
.000	.3700E+00	.000	.0000E+00

ROUTING RESULTS	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW >10: (CENTER)	10.59	.826	1.000	10.525
OUTFLOW<01: (CW-SSD)	10.59	.000	.000	.000
OVERFLOW<03: (toWT1)	.00	.000	.000	.000

TOTAL NUMBER OF SIMULATED OVERFLOWS = 0
CUMULATIVE TIME OF OVERFLOWS (hours)= .00
PERCENTAGE OF TIME OVERFLOWING (%)= .00

PEAK FLOW REDUCTION [Qout/Qin](%)= .000
TIME SHIFT OF PEAK FLOW (min)= -60.00
MAXIMUM STORAGE USED (ha.m.)=.1115E+00

*** WARNING: Outflow volume is less than inflow volume.

001:0384

CALIB STANDHYD | Area (ha)= .44
05:C207 DT= 1.00 | Total Imp(%)= 35.00 Dir. Conn.(%)= 25.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	.15	.29
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	90.00	25.00
Mannings n	=	.013	.250
Max.eff.Inten.(mm/hr)=		249.64	31.64
over (min)		2.00	10.00
Storage Coeff. (min)=		1.66 (ii)	10.10 (ii)
Unit Hyd. Tpeak (min)=		2.00	10.00
Unit Hyd. peak (cms)=		.63	.11

		TOTALS
PEAK FLOW	(cms)=	.07 .02 .077 (iii)
TIME TO PEAK	(hrs)=	1.00 1.20 1.000
RUNOFF VOLUME	(mm)=	74.21 12.41 27.865
TOTAL RAINFALL	(mm)=	76.22 76.22 76.215
RUNOFF COEFFICIENT	=	.97 .16 .366

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 39.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

001:0385

COMPUTE DUALHYD | Average inlet capacities [CINLET] = .064 (cms)
TotalHyd 05:C207 | Number of inlets in system [NINLET] = 1
Total minor system capacity = .064 (cms)
Total major system storage [TMJSTO] = 0.(cu.m.)

	ID: NHYD	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	DWF (cms)
TOTAL HYD.	05:C207	.44	.077	1.000	27.865	.000
MAJOR SYST	09:toET1	.01	.013	1.000	27.865	.000
MINOR SYST	07:toSWMF	.43	.064	.967	27.865	.000

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

001:0386

CALIB STANDHYD | Area (ha)= .93
05:C208 DT= 1.00 | Total Imp(%)= 35.00 Dir. Conn.(%)= 25.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	.33	.60
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	90.00	25.00
Mannings n	=	.013	.250
Max.eff.Inten.(mm/hr)=		249.64	31.64
over (min)		2.00	10.00
Storage Coeff. (min)=		1.66 (ii)	10.10 (ii)
Unit Hyd. Tpeak (min)=		2.00	10.00
Unit Hyd. peak (cms)=		.63	.11

		TOTALS
PEAK FLOW	(cms)=	.15 .03 .162 (iii)
TIME TO PEAK	(hrs)=	1.00 1.20 1.000
RUNOFF VOLUME	(mm)=	74.22 12.41 27.865
TOTAL RAINFALL	(mm)=	76.22 76.22 76.215
RUNOFF COEFFICIENT	=	.97 .16 .366

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 39.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

001:0387

COMPUTE DUALHYD | Average inlet capacities [CINLET] = .119 (cms)
TotalHyd 05:C208 | Number of inlets in system [NINLET] = 1
Total minor system capacity = .119 (cms)
Total major system storage [TMJSTO] = 0.(cu.m.)

	ID: NHYD	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	DWF (cms)
TOTAL HYD.	05:C208	.93	.162	1.000	27.865	.000
MAJOR SYST	03:toET2	.03	.043	1.000	27.865	.000
MINOR SYST	01:toSWMF	.90	.119	.967	27.865	.000

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

001:0388

ADD HYD (toSWMF1A) | ID: NHYD | AREA (ha) | QPEAK (cms) | TPEAK (hrs) | R.V. (mm) | DWF (cms)

	ID1 01:toSWMF6	.90	.119	.97	27.86	.000
	+ID2 02:toSWMF1	.36	.077	.93	52.51	.000
	+ID3 04:toSWMF2	3.60	.440	.95	31.05	.000
	+ID4 06:toSWMF3	1.02	.237	.95	47.54	.000
	+ID5 07:toSWMF5	.43	.064	.97	27.86	.000
	+ID6 08:toSWMF4	.15	.025	.85	67.88	.000
	SUM 05:toSWMF1A	6.47	.962	.97	35.07	.000

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

001:0389

CALIB STANDHYD | Area (ha)= 12.10
01:C302 DT= 1.00 | Total Imp(%)= 41.00 Dir. Conn.(%)= 31.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	4.96	7.14
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	90.00	25.00
Mannings n	=	.013	.250
Max.eff.Inten.(mm/hr)=		249.64	32.51
over (min)		2.00	10.00
Storage Coeff. (min)=		1.66 (ii)	10.01 (ii)
Unit Hyd. Tpeak (min)=		2.00	10.00
Unit Hyd. peak (cms)=		.63	.11

		TOTALS
PEAK FLOW	(cms)=	2.48 .40 2.582 (iii)
TIME TO PEAK	(hrs)=	1.00 1.20 1.000
RUNOFF VOLUME	(mm)=	74.21 12.57 31.682
TOTAL RAINFALL	(mm)=	76.22 76.22 76.215
RUNOFF COEFFICIENT	=	.97 .16 .416

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 39.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

001:0390

CALIB STANDHYD | Area (ha)= 1.29
02:C203 DT= 1.00 | Total Imp(%)= 68.00 Dir. Conn.(%)= 66.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	.88	.41
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	.50	2.00
Length	(m)=	100.00	100.00
Mannings n	=	.013	.250
Max.eff.Inten.(mm/hr)=		249.64	16.59
over (min)		2.00	27.00
Storage Coeff. (min)=		2.18 (ii)	27.27 (ii)
Unit Hyd. Tpeak (min)=		2.00	27.00
Unit Hyd. peak (cms)=		.53	.04

		TOTALS
PEAK FLOW	(cms)=	.54 .01 .539 (iii)
TIME TO PEAK	(hrs)=	1.00 1.52 1.000
RUNOFF VOLUME	(mm)=	74.21 11.48 52.885
TOTAL RAINFALL	(mm)=	76.22 76.22 76.215
RUNOFF COEFFICIENT	=	.97 .15 .694

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 39.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

001:0391

ADD HYD (toSWMF2A) | ID: NHYD | AREA (ha) | QPEAK (cms) | TPEAK (hrs) | R.V. (mm) | DWF (cms)

	ID1 01:C302	12.10	2.582	1.00	31.68	.000
	+ID2 02:C203	1.29	.539	1.00	52.89	.000
	+ID3 05:toSWMF1A	6.47	.962	.97	35.07	.000
	SUM 04:toSWMF2A	19.86	4.083	1.00	34.16	.000

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

001:0392

ROUTE RESERVOIR | IN>04:(toSWMF) | OUT<01:(SWMF)

Requested routing time step = 1.0 min.

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
.000	.0000E+00	.340	.2740E+00
.011	.2900E-01	.697	.3140E+00
.015	.6000E-01	1.206	.3540E+00
.019	.9200E-01	1.880	.3960E+00
.022	.1260E+00	2.734	.4380E+00
.024	.1610E+00	3.779	.4820E+00
.027	.1980E+00	5.029	.5260E+00
.120	.2360E+00	.000	.0000E+00

ROUTING RESULTS	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW >04: (toSWMF)	19.86	4.083	1.000	34.163
OUTFLOW<01: (SWMF)	19.86	1.227	1.317	34.162
OVERFLOW<02: (OverQ)	.00	.000	.000	.000

TOTAL NUMBER OF SIMULATED OVERFLOWS = 0
CUMULATIVE TIME OF OVERFLOWS (hours)= .00
PERCENTAGE OF TIME OVERFLOWING (%)= .00

PEAK FLOW REDUCTION [Qout/Qin](%)= 30.042
TIME SHIFT OF PEAK FLOW (min)= 19.00
MAXIMUM STORAGE USED (ha.m.)=.3553E+00

```
09181> 001:0393-------------------------------------------------------------------------------
09182> ----------------------
09183> | CALIB STANDHYD     |   Area    (ha)=   18.54
09184> | 04:EX-2   DT= 1.00 |   Total Imp(%)=   35.00   Dir. Conn.(%)=   25.00
09185> ----------------------
09186>                              IMPERVIOUS    PERVIOUS (i)
09187>      Surface Area     (ha)=       6.49        12.05
09188>      Dep. Storage     (mm)=       2.00         5.00
09189>      Average Slope     (%)=       1.00         2.00
09190>      Length            (m)=      90.00        50.00
09191>      Mannings n              =      .013         .250
09192>
09193>      Max.eff.Inten.(mm/hr)=     249.64        26.87
09194>                    over (min)        2.00        15.00
09195>      Storage Coeff.  (min)=       1.66 (ii)   15.31 (ii)
09196>      Unit Hyd. Tpeak (min)=       2.00        15.00
09197>      Unit Hyd. peak  (cms)=        .63          .07
09198>                                                          *TOTALS*
09199>      PEAK FLOW       (cms)=       3.06          .53         3.141 (iii)
09200>      TIME TO PEAK    (hrs)=       1.00         1.30         1.000
09201>      RUNOFF VOLUME    (mm)=      74.21        12.41        27.865
09202>      TOTAL RAINFALL   (mm)=      76.22        76.22        76.215
09203>      RUNOFF COEFFICIENT   =        .97          .16          .366
09204>
09205>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
09206>            CN* =  39.0    Ia = Dep. Storage  (Above)
09207>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
09208>            THAN THE STORAGE COEFFICIENT.
09209>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
09210>
09211> -------------------------------------------------------------------------------
09212> 001:0394-------------------------------------------------------------------------------
09213> ----------------------
09214> | CALIB STANDHYD     |   Area    (ha)=     .51
09215> | 05:C209   DT= 1.00 |   Total Imp(%)=   61.00   Dir. Conn.(%)=   55.00
09216> ----------------------
09217>                              IMPERVIOUS    PERVIOUS (i)
09218>      Surface Area     (ha)=        .31          .20
09219>      Dep. Storage     (mm)=       2.00         5.00
09220>      Average Slope     (%)=       1.00         2.00
09221>      Length            (m)=      90.00        10.00
09222>      Mannings n              =      .013         .250
09223>
09224>      Max.eff.Inten.(mm/hr)=     249.64        34.56
09225>                    over (min)        2.00         6.00
09226>      Storage Coeff.  (min)=       1.66 (ii)    6.36 (ii)
09227>      Unit Hyd. Tpeak (min)=       2.00         6.00
09228>      Unit Hyd. peak  (cms)=        .63          .18
09229>                                                          *TOTALS*
09230>      PEAK FLOW       (cms)=        .19          .01          .192 (iii)
09231>      TIME TO PEAK    (hrs)=       1.00         1.12         1.000
09232>      RUNOFF VOLUME    (mm)=      74.21        12.41        46.405
09233>      TOTAL RAINFALL   (mm)=      76.22        76.22        76.215
09234>      RUNOFF COEFFICIENT   =        .97          .16          .609
09235>
09236>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
09237>            CN* =  39.0    Ia = Dep. Storage  (Above)
09238>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
09239>            THAN THE STORAGE COEFFICIENT.
09240>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
09241>
09242> -------------------------------------------------------------------------------
09243> 001:0395-------------------------------------------------------------------------------
09244> ----------------------
09245> | COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .109  (cms)
09246> | TotalHyd 05:C209   |   Number of inlets in system [NINLET] =       1
09247> ----------------------   Total minor system capacity          =    .109  (cms)
09248>                          Total major system storage [TMJSTO] =      0.(cu.m.)
09249>
09250>                    ID: NHYD        AREA     QPEAK     TPEAK     R.V.      DWF
09251>                                     (ha)     (cms)     (hrs)     (mm)     (cms)
09252>      TOTAL HYD.   05:C209          .51      .192     1.000   46.405     .000
09253>      ================================================================================
09254>      MAJOR SYST   07:toET3         .05      .082     1.000   46.405     .000
09255>      MINOR SYST   06:toWT2         .46      .109      .950   46.405     .000
09256>
09257>      NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
09258>
09259> -------------------------------------------------------------------------------
09260> 001:0396-------------------------------------------------------------------------------
09261> ------------------------
09262> | ADD HYD (EAST-T    ) | ID: NHYD          AREA     QPEAK   TPEAK   R.V.    DWF
09263> ------------------------                    (ha)     (cms)   (hrs)   (mm)   (cms)
09264>                       ID1 01:SWMF          19.86    1.227   1.32  34.16    .000
09265>                      +ID2 02:OverQ          .00     .000    .00    .00    .000
09266>                      +ID3 03:toET2          .03     .043   1.00  27.86    .000
09267>                      +ID4 04:EX-2         18.54    3.141   1.00  27.86    .000
09268>                      +ID5 07:toET3          .05     .082   1.00  46.41    .000
09269>                      +ID6 09:toET1          .01     .013   1.00  27.86    .000
09270>                       ============================================================
09271>                       SUM 05:EAST-T        38.49    3.305   1.00  31.14    .000
09272>
09273>    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
09274>
09275> -------------------------------------------------------------------------------
09276> 001:0397-------------------------------------------------------------------------------
09277> ----------------------
09278> | CALIB STANDHYD     |   Area    (ha)=     .39
09279> | 01:C210   DT= 1.00 |   Total Imp(%)=   90.00   Dir. Conn.(%)=   90.00
09280> ----------------------
09281>                              IMPERVIOUS    PERVIOUS (i)
09282>      Surface Area     (ha)=        .35          .04
09283>      Dep. Storage     (mm)=       2.00         5.00
09284>      Average Slope     (%)=       1.00         2.00
09285>      Length            (m)=      90.00        10.00
09286>      Mannings n              =      .013         .250
09287>
09288>      Max.eff.Inten.(mm/hr)=     249.64        25.02
09289>                    over (min)        2.00         7.00
09290>      Storage Coeff.  (min)=       1.66 (ii)    7.01 (ii)
09291>      Unit Hyd. Tpeak (min)=       2.00         7.00
09292>      Unit Hyd. peak  (cms)=        .63          .16
09293>                                                          *TOTALS*
09294>      PEAK FLOW       (cms)=        .23          .00          .233 (iii)
09295>      TIME TO PEAK    (hrs)=       1.00         1.15         1.000
09296>      RUNOFF VOLUME    (mm)=      74.21        10.83        67.876
09297>      TOTAL RAINFALL   (mm)=      76.22        76.22        76.215
09298>      RUNOFF COEFFICIENT   =        .97          .14          .891
09299>
09300>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
09301>            CN* =  39.0    Ia = Dep. Storage  (Above)
09302>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
09303>            THAN THE STORAGE COEFFICIENT.
09304>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
09305>
09306> -------------------------------------------------------------------------------
09307> 001:0398-------------------------------------------------------------------------------
09308> ----------------------
09309> | CALIB STANDHYD     |   Area    (ha)=     .27
09310> | 02:C307   DT= 1.00 |   Total Imp(%)=   90.00   Dir. Conn.(%)=    1.00
09311> ----------------------
09312>                              IMPERVIOUS    PERVIOUS (i)
09313>      Surface Area     (ha)=        .24          .03
09314>      Dep. Storage     (mm)=       2.00         5.00
09315>      Average Slope     (%)=       1.00         2.00
09316>      Length            (m)=      90.00        10.00
09317>      Mannings n              =      .013         .250
09318>
09319>      Max.eff.Inten.(mm/hr)=     249.64      1703.93
09320>                    over (min)        2.00         3.00
09321>      Storage Coeff.  (min)=       1.66 (ii)    2.65 (ii)
09322>      Unit Hyd. Tpeak (min)=       2.00         3.00
09323>      Unit Hyd. peak  (cms)=        .63          .41
09324>                                                          *TOTALS*
09325>      PEAK FLOW       (cms)=        .00          .10          .104 (iii)
09326>      TIME TO PEAK    (hrs)=       1.00         1.02         1.017
09327>      RUNOFF VOLUME    (mm)=      74.22        49.48        49.730
09328>      TOTAL RAINFALL   (mm)=      76.22        76.22        76.215
09329>      RUNOFF COEFFICIENT   =        .97          .65          .652
09330>
09331>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
09332>            CN* =  39.0    Ia = Dep. Storage  (Above)
09333>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
09334>            THAN THE STORAGE COEFFICIENT.
09335>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
09336>
09337> -------------------------------------------------------------------------------
09338> 001:0399-------------------------------------------------------------------------------
09339> ----------------------
09340> | CALIB STANDHYD     |   Area    (ha)=    2.61
09341> | 03:C305   DT= 1.00 |   Total Imp(%)=   76.00   Dir. Conn.(%)=   57.00
09342> ----------------------
09343>                              IMPERVIOUS    PERVIOUS (i)
09344>      Surface Area     (ha)=       1.98          .63
09345>      Dep. Storage     (mm)=       2.00         5.00
09346>      Average Slope     (%)=       1.00         2.00
09347>      Length            (m)=      90.00        25.00
09348>      Mannings n              =      .013         .250
09349>
09350>      Max.eff.Inten.(mm/hr)=     249.64        77.11
09351>                    over (min)        2.00         8.00
09352>      Storage Coeff.  (min)=       1.66 (ii)    7.57 (ii)
09353>      Unit Hyd. Tpeak (min)=       2.00         8.00
09354>      Unit Hyd. peak  (cms)=        .63          .15
09355>                                                          *TOTALS*
09356>      PEAK FLOW       (cms)=        .98          .09         1.017 (iii)
09357>      TIME TO PEAK    (hrs)=       1.00         1.15         1.000
09358>      RUNOFF VOLUME    (mm)=      74.21        18.26        50.157
09359>      TOTAL RAINFALL   (mm)=      76.22        76.22        76.215
09360>      RUNOFF COEFFICIENT   =        .97          .24          .658
09361>
09362>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
09363>            CN* =  39.0    Ia = Dep. Storage  (Above)
09364>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
09365>            THAN THE STORAGE COEFFICIENT.
09366>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
09367>
09368> -------------------------------------------------------------------------------
09369> 001:0400-------------------------------------------------------------------------------
09370> ----------------------
09371> | COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .030  (cms)
09372> | TotalHyd 03:C305   |   Number of inlets in system [NINLET] =       1
09373> ----------------------   Total minor system capacity          =    .030  (cms)
09374>                          Total major system storage [TMJSTO] =    730.(cu.m.)
09375>
09376>                    ID: NHYD        AREA     QPEAK     TPEAK     R.V.      DWF
09377>                                     (ha)     (cms)     (hrs)     (mm)     (cms)
09378>      TOTAL HYD.   03:C305          2.61     1.017     1.000   50.157     .000
09379>      ================================================================================
09380>      MAJOR SYST   07:toWT3          .59      .284     1.200   50.157     .000
09381>      MINOR SYST   04:toPD          2.02      .030      .450   50.206     .000
09382>
09383>      NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
09384>
09385>      Maximum MAJOR SYSTEM storage used =     730.(cu.m.)
09386>
09387> -------------------------------------------------------------------------------
09388> 001:0401-------------------------------------------------------------------------------
09389> ----------------------
09390> | CALIB NASHYD       |   Area    (ha)=    1.77   Curve Number   (CN)=36.00
09391> | 03:C306   DT= 1.00 |   Ia      (mm)=   8.000   # of Linear Res.(N)= 3.00
09392> ----------------------   U.H. Tp(hrs)=    .580
09393>
09394>      Unit Hyd Qpeak  (cms)=     .117
09395>
09396>      PEAK FLOW       (cms)=     .028 (i)
09397>      TIME TO PEAK    (hrs)=    1.800
09398>      RUNOFF VOLUME    (mm)=    8.952
09399>      TOTAL RAINFALL   (mm)=   76.215
09400>      RUNOFF COEFFICIENT   =     .117
09401>
09402>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
09403>
09404> -------------------------------------------------------------------------------
09405> 001:0402-------------------------------------------------------------------------------
09406> ------------------------
09407> | ADD HYD (WEST-T    ) | ID: NHYD          AREA     QPEAK   TPEAK   R.V.    DWF
09408> ------------------------                    (ha)     (cms)   (hrs)   (mm)   (cms)
09409>                       ID1 01:C210           .39     .233   1.00  67.88    .000
09410>                      +ID2 02:C307           .27     .104   1.02  49.73    .000
09411>                      +ID3 03:C306          1.77     .028   1.80   8.95    .000
09412>                      +ID4 04:toPD          2.02     .030    .45  50.21    .000
09413>                      +ID5 06:toWT2          .46     .109    .95  46.41    .000
09414>                      +ID6 07:toWT3          .59     .284   1.20  50.16    .000
09415>                       ============================================================
09416>                       SUM 08:WEST-T         5.50     .473   1.20  37.84    .000
09417>
09418>    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
09419>
09420> -------------------------------------------------------------------------------
09421> 001:0403-------------------------------------------------------------------------------
09422> ----------------------
09423> | CALIB NASHYD       |   Area    (ha)=    7.88   Curve Number   (CN)=32.00
09424> | 01:C301   DT= 1.00 |   Ia      (mm)=   8.000   # of Linear Res.(N)= 3.00
09425> ----------------------   U.H. Tp(hrs)=    .510
09426>
09427>      Unit Hyd Qpeak  (cms)=     .590
09428>
09429>      PEAK FLOW       (cms)=     .115 (i)
09430>      TIME TO PEAK    (hrs)=    1.717
09431>      RUNOFF VOLUME    (mm)=    7.654
09432>      TOTAL RAINFALL   (mm)=   76.215
09433>      RUNOFF COEFFICIENT   =     .100
09434>
09435>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
09436>
09437> -------------------------------------------------------------------------------
09438> 001:0404-------------------------------------------------------------------------------
09439> *#*****************************************************************************
09440> *#
09441> *#                                        250-year
09442> *#                                        ========
09443> *#
09444> *#*****************************************************************************
09445> --------------------
09446> | CHICAGO STORM    |    IDF curve parameters: A=3048.220
09447> | Ptotal= 86.60 mm |                          B=  10.030
09448> --------------------                          C=    .888
09449>                          used in:   INTENSITY =  A / (t + B)^C
09450>
```

```
                      Duration of storm  =  3.00 hrs
                      Storm time step    =  5.00 min
                      Time to peak ratio =   .33

              TIME    RAIN |  TIME    RAIN |  TIME    RAIN |  TIME    RAIN
               hrs   mm/hr |   hrs   mm/hr |   hrs   mm/hr |   hrs   mm/hr
               .08   5.095 |   .83  43.425 |  1.58  19.302 |  2.33   7.254
               .17   5.690 |   .92 106.077 |  1.67  16.460 |  2.42   6.764
               .25   6.440 |  1.00 274.730 |  1.75  14.300 |  2.50   6.334
               .33   7.410 |  1.08 136.668 |  1.83  12.612 |  2.58   5.955
               .42   8.710 |  1.17  76.864 |  1.92  11.261 |  2.67   5.617
               .50  10.529 |  1.25  50.954 |  2.00  10.158 |  2.75   5.316
               .58  13.230 |  1.33  37.106 |  2.08   9.244 |  2.83   5.044
               .67  17.585 |  1.42  28.713 |  2.17   8.474 |  2.92   4.799
               .75  25.536 |  1.50  23.179 |  2.25   7.819 |  3.00   4.577

------------------------------------------------------------------------------
001:0405----------------------------------------------------------------------
*#**************************************************************************
*#                              ====================
*#                               EXISTING CONDITIONS
*#                              ====================
*#**************************************************************************
 ----------------------
| CALIB STANDHYD     |   Area    (ha)=   18.54
| 01:EX-1   DT= 1.00 |   Total Imp(%)=   35.00   Dir. Conn.(%)=   25.00
 ----------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       6.49        12.05
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      90.00        50.00
     Mannings n           =       .013         .250

     Max.eff.Inten.(mm/hr)=     274.73        34.87
                  over (min)       2.00        14.00
     Storage Coeff.  (min)=       1.60 (ii)   13.90 (ii)
     Unit Hyd. Tpeak (min)=       2.00        14.00
     Unit Hyd. peak  (cms)=        .64          .08
                                                      *TOTALS*
     PEAK FLOW       (cms)=       3.39          .71      3.512 (iii)
     TIME TO PEAK    (hrs)=       1.00         1.28      1.000
     RUNOFF VOLUME    (mm)=      84.60        15.87     33.050
     TOTAL RAINFALL   (mm)=      86.60        86.60     86.603
     RUNOFF COEFFICIENT   =        .98          .18       .382

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  39.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

------------------------------------------------------------------------------
001:0406----------------------------------------------------------------------
 ----------------------
| CALIB NASHYD       |   Area    (ha)=    9.06   Curve Number   (CN)=40.00
| 02:C101   DT= 1.00 |   Ia      (mm)=   8.000   # of Linear Res.(N)= 3.00
 ----------------------  U.H. Tp(hrs)=    .510

     Unit Hyd Qpeak  (cms)=     .679

     PEAK FLOW       (cms)=     .235 (i)
     TIME TO PEAK    (hrs)=    1.700
     RUNOFF VOLUME    (mm)=   13.443
     TOTAL RAINFALL   (mm)=   86.603
     RUNOFF COEFFICIENT   =     .155

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

------------------------------------------------------------------------------
001:0407----------------------------------------------------------------------
 ----------------------
| CALIB NASHYD       |   Area    (ha)=   13.09   Curve Number   (CN)=47.00
| 03:C102   DT= 1.00 |   Ia      (mm)=   8.000   # of Linear Res.(N)= 3.00
 ----------------------  U.H. Tp(hrs)=    .850

     Unit Hyd Qpeak  (cms)=     .588

     PEAK FLOW       (cms)=     .299 (i)
     TIME TO PEAK    (hrs)=    2.133
     RUNOFF VOLUME    (mm)=   16.926
     TOTAL RAINFALL   (mm)=   86.603
     RUNOFF COEFFICIENT   =     .195

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

------------------------------------------------------------------------------
001:0408----------------------------------------------------------------------
 ----------------------
| CALIB STANDHYD     |   Area    (ha)=    .61
| 04:C108   DT= 1.00 |   Total Imp(%)=   75.00   Dir. Conn.(%)=    1.00
 ----------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .46          .15
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      90.00        40.00
     Mannings n           =       .013         .250

     Max.eff.Inten.(mm/hr)=     274.73       419.77
                  over (min)       2.00         6.00
     Storage Coeff.  (min)=       1.60 (ii)    5.58 (ii)
     Unit Hyd. Tpeak (min)=       2.00         6.00
     Unit Hyd. peak  (cms)=        .64          .20
                                                      *TOTALS*
     PEAK FLOW       (cms)=        .00          .13       .129 (iii)
     TIME TO PEAK    (hrs)=       1.00         1.08      1.083
     RUNOFF VOLUME    (mm)=      84.60        39.23     39.680
     TOTAL RAINFALL   (mm)=      86.60        86.60     86.603
     RUNOFF COEFFICIENT   =        .98          .45       .458

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  39.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

------------------------------------------------------------------------------
001:0409----------------------------------------------------------------------
 ------------------------
| ADD HYD (CENTER-W  ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
 ------------------------                   (ha)     (cms)   (hrs)   (mm)   (cms)
                       ID1 03:C102          13.09     .299    2.13  16.93    .000
                      +ID2 04:C108            .61     .129    1.08  39.68    .000
                       ========================================================
                       SUM 05:CENTER-W      13.70     .311    2.12  17.94    .000

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

------------------------------------------------------------------------------
001:0410----------------------------------------------------------------------
 ----------------------
| CALIB NASHYD       |   Area    (ha)=    9.17   Curve Number   (CN)=64.00
| 03:C104   DT= 1.00 |   Ia      (mm)=   8.000   # of Linear Res.(N)= 3.00
 ----------------------  U.H. Tp(hrs)=    .590

     Unit Hyd Qpeak  (cms)=     .594

     PEAK FLOW       (cms)=     .457 (i)
     TIME TO PEAK    (hrs)=    1.783
     RUNOFF VOLUME    (mm)=   27.896
     TOTAL RAINFALL   (mm)=   86.603
     RUNOFF COEFFICIENT   =     .322

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

------------------------------------------------------------------------------
001:0411----------------------------------------------------------------------
 ----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.63
| 04:C105   DT= 1.00 |   Total Imp(%)=   56.00   Dir. Conn.(%)=   50.00
 ----------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .91          .72
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      90.00        40.00
     Mannings n           =       .013         .250

     Max.eff.Inten.(mm/hr)=     274.73        35.82
                  over (min)       2.00        12.00
     Storage Coeff.  (min)=       1.60 (ii)   12.24 (ii)
     Unit Hyd. Tpeak (min)=       2.00        12.00
     Unit Hyd. peak  (cms)=        .64          .09
                                                      *TOTALS*
     PEAK FLOW       (cms)=        .60          .04       .605 (iii)
     TIME TO PEAK    (hrs)=       1.00         1.25      1.000
     RUNOFF VOLUME    (mm)=      84.60        15.65     50.126
     TOTAL RAINFALL   (mm)=      86.60        86.60     86.603
     RUNOFF COEFFICIENT   =        .98          .18       .579

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  39.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

------------------------------------------------------------------------------
001:0412----------------------------------------------------------------------
 ----------------------
| ADD HYD (EAST-T    ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
 ------------------------                   (ha)     (cms)   (hrs)   (mm)   (cms)
                       ID1 01:EX-1          18.54    3.512    1.00  33.05    .000
                      +ID2 03:C104           9.17     .457    1.78  27.90    .000
                      +ID3 04:C105           1.63     .605    1.00  50.13    .000
                       ========================================================
                       SUM 06:EAST-T        29.34    4.129    1.00  32.39    .000

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

------------------------------------------------------------------------------
001:0413----------------------------------------------------------------------
 ----------------------
| CALIB NASHYD       |   Area    (ha)=    8.73   Curve Number   (CN)=62.00
| 01:C103   DT= 1.00 |   Ia      (mm)=   8.000   # of Linear Res.(N)= 3.00
 ----------------------  U.H. Tp(hrs)=    .540

     Unit Hyd Qpeak  (cms)=     .617

     PEAK FLOW       (cms)=     .437 (i)
     TIME TO PEAK    (hrs)=    1.733
     RUNOFF VOLUME    (mm)=   26.372
     TOTAL RAINFALL   (mm)=   86.603
     RUNOFF COEFFICIENT   =     .305

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

------------------------------------------------------------------------------
001:0414----------------------------------------------------------------------
 ----------------------
| CALIB STANDHYD     |   Area    (ha)=     .47
| 03:C106   DT= 1.00 |   Total Imp(%)=   75.00   Dir. Conn.(%)=    1.00
 ----------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .35          .12
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      90.00        40.00
     Mannings n           =       .013         .250

     Max.eff.Inten.(mm/hr)=     274.73       419.77
                  over (min)       2.00         6.00
     Storage Coeff.  (min)=       1.60 (ii)    5.58 (ii)
     Unit Hyd. Tpeak (min)=       2.00         6.00
     Unit Hyd. peak  (cms)=        .64          .20
                                                      *TOTALS*
     PEAK FLOW       (cms)=        .00          .10       .100 (iii)
     TIME TO PEAK    (hrs)=       1.00         1.08      1.083
     RUNOFF VOLUME    (mm)=      84.60        39.23     39.680
     TOTAL RAINFALL   (mm)=      86.60        86.60     86.603
     RUNOFF COEFFICIENT   =        .98          .45       .458

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  39.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

------------------------------------------------------------------------------
001:0415----------------------------------------------------------------------
 ----------------------
| CALIB STANDHYD     |   Area    (ha)=     .54
| 04:C107   DT= 1.00 |   Total Imp(%)=   75.00   Dir. Conn.(%)=    1.00
 ----------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .41          .14
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      90.00        40.00
     Mannings n           =       .013         .250

     Max.eff.Inten.(mm/hr)=     274.73       419.77
                  over (min)       2.00         6.00
     Storage Coeff.  (min)=       1.60 (ii)    5.58 (ii)
     Unit Hyd. Tpeak (min)=       2.00         6.00
     Unit Hyd. peak  (cms)=        .64          .20
                                                      *TOTALS*
     PEAK FLOW       (cms)=        .00          .11       .114 (iii)
     TIME TO PEAK    (hrs)=       1.00         1.08      1.083
     RUNOFF VOLUME    (mm)=      84.60        39.23     39.680
     TOTAL RAINFALL   (mm)=      86.60        86.60     86.603
     RUNOFF COEFFICIENT   =        .98          .45       .458

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  39.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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09721> 001:0416----------------------------------------------------------------------------
09722> ------------------------
09723> | ADD HYD (WEST-T    ) | ID: NHYD          AREA     QPEAK   TPEAK   R.V.    DWF
09724> ------------------------                   (ha)     (cms)   (hrs)   (mm)   (cms)
09725>                      ID1 01:C103           8.73     .437    1.73  26.37    .000
09726>                     +ID2 03:C106            .47     .100    1.08  39.68    .000
09727>                     +ID3 04:C107            .54     .114    1.08  39.68    .000
09728>                      ============================================================
09729>                      SUM 07:WEST-T         9.74     .473    1.68  27.75    .000
09730>
09731>    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
09732>
09733> ----------------------------------------------------------------------------
09734> 001:0417----------------------------------------------------------------------------
09735> ----------------------
09736> | CALIB STANDHYD     |   Area    (ha)=     .17
09737> | 01:C109   DT= 1.00 |   Total Imp(%)=   75.00   Dir. Conn.(%)=    1.00
09738> ----------------------
09739>                              IMPERVIOUS    PERVIOUS (i)
09740>      Surface Area     (ha)=        .13          .04
09741>      Dep. Storage     (mm)=       2.00         5.00
09742>      Average Slope     (%)=       1.00         2.00
09743>      Length            (m)=      90.00        40.00
09744>      Mannings n             =      .013         .250
09745>
09746>      Max.eff.Inten.(mm/hr)=     274.73       419.77
09747>                   over (min)        2.00         6.00
09748>      Storage Coeff.  (min)=       1.60 (ii)    5.58 (ii)
09749>      Unit Hyd. Tpeak (min)=       2.00         6.00
09750>      Unit Hyd. peak  (cms)=        .64          .20
09751>                                                          *TOTALS*
09752>      PEAK FLOW       (cms)=        .00          .04          .036 (iii)
09753>      TIME TO PEAK    (hrs)=       1.00         1.08         1.083
09754>      RUNOFF VOLUME    (mm)=      84.60        39.23        39.680
09755>      TOTAL RAINFALL   (mm)=      86.60        86.60        86.603
09756>      RUNOFF COEFFICIENT   =        .98          .45          .458
09757>
09758>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
09759>            CN* =  39.0    Ia = Dep. Storage  (Above)
09760>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
09761>            THAN THE STORAGE COEFFICIENT.
09762>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
09763>
09764> ----------------------------------------------------------------------------
09765> 001:0418----------------------------------------------------------------------------
09766> *#*************************************************************************
09767> *#                          ========================================
09768> *#                           PROSPOSED INTERIM DEVELOPMENT CONDITIONS
09769> *#                          ========================================
09770> *#*************************************************************************
09771> ----------------------
09772> | CALIB STANDHYD     |   Area    (ha)=    9.66
09773> | 01:C202   DT= 1.00 |   Total Imp(%)=   40.00   Dir. Conn.(%)=   30.00
09774> ----------------------
09775>                              IMPERVIOUS    PERVIOUS (i)
09776>      Surface Area     (ha)=       3.86         5.80
09777>      Dep. Storage     (mm)=       2.00         5.00
09778>      Average Slope     (%)=       1.00         2.00
09779>      Length            (m)=      90.00        25.00
09780>      Mannings n             =      .013         .250
09781>
09782>      Max.eff.Inten.(mm/hr)=     274.73        41.73
09783>                   over (min)        2.00         9.00
09784>      Storage Coeff.  (min)=       1.60 (ii)    9.15 (ii)
09785>      Unit Hyd. Tpeak (min)=       2.00         9.00
09786>      Unit Hyd. peak  (cms)=        .64          .12
09787>                                                          *TOTALS*
09788>      PEAK FLOW       (cms)=       2.12          .43         2.251 (iii)
09789>      TIME TO PEAK    (hrs)=       1.00         1.18         1.000
09790>      RUNOFF VOLUME    (mm)=      84.60        16.02        36.598
09791>      TOTAL RAINFALL   (mm)=      86.60        86.60        86.603
09792>      RUNOFF COEFFICIENT   =        .98          .19          .423
09793>
09794>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
09795>            CN* =  39.0    Ia = Dep. Storage  (Above)
09796>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
09797>            THAN THE STORAGE COEFFICIENT.
09798>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
09799>
09800> ----------------------------------------------------------------------------
09801> 001:0419----------------------------------------------------------------------------
09802> ----------------------
09803> | CALIB STANDHYD     |   Area    (ha)=     .44
09804> | 02:C207   DT= 1.00 |   Total Imp(%)=   35.00   Dir. Conn.(%)=   25.00
09805> ----------------------
09806>                              IMPERVIOUS    PERVIOUS (i)
09807>      Surface Area     (ha)=        .15          .29
09808>      Dep. Storage     (mm)=       2.00         5.00
09809>      Average Slope     (%)=       1.00         2.00
09810>      Length            (m)=      90.00        25.00
09811>      Mannings n             =      .013         .250
09812>
09813>      Max.eff.Inten.(mm/hr)=     274.73        40.83
09814>                   over (min)        2.00         9.00
09815>      Storage Coeff.  (min)=       1.60 (ii)    9.22 (ii)
09816>      Unit Hyd. Tpeak (min)=       2.00         9.00
09817>      Unit Hyd. peak  (cms)=        .64          .12
09818>                                                          *TOTALS*
09819>      PEAK FLOW       (cms)=        .08          .02          .087 (iii)
09820>      TIME TO PEAK    (hrs)=       1.00         1.18         1.000
09821>      RUNOFF VOLUME    (mm)=      84.60        15.87        33.050
09822>      TOTAL RAINFALL   (mm)=      86.60        86.60        86.603
09823>      RUNOFF COEFFICIENT   =        .98          .18          .382
09824>
09825>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
09826>            CN* =  39.0    Ia = Dep. Storage  (Above)
09827>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
09828>            THAN THE STORAGE COEFFICIENT.
09829>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
09830>
09831> ----------------------------------------------------------------------------
09832> 001:0420----------------------------------------------------------------------------
09833> ----------------------
09834> | COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .064  (cms)
09835> | TotalHyd 02:C207   |   Number of inlets in system [NINLET] =      1
09836> ----------------------   Total minor system capacity         =    .064  (cms)
09837>                          Total major system storage [TMJSTO] =      0.(cu.m.)
09838>
09839>                    ID: NHYD        AREA     QPEAK     TPEAK     R.V.      DWF
09840>                                     (ha)     (cms)     (hrs)     (mm)    (cms)
09841>      TOTAL HYD.   02:C207          .44      .087     1.000   33.050     .000
09842>      ================================================================
09843>      MAJOR SYST   04:toET1          .01      .023     1.000   33.050     .000
09844>      MINOR SYST   03:toSWMF         .43      .064      .967   33.050     .000
09845>
09846>      NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
09847>
09848> ----------------------------------------------------------------------------
09849> 001:0421----------------------------------------------------------------------------
09850> ----------------------
09851> | CALIB STANDHYD     |   Area    (ha)=     .93
09852> | 02:C208   DT= 1.00 |   Total Imp(%)=   35.00   Dir. Conn.(%)=   25.00
09853> ----------------------
09854>                              IMPERVIOUS    PERVIOUS (i)
09855>      Surface Area     (ha)=        .33          .60
09856>      Dep. Storage     (mm)=       2.00         5.00
09857>      Average Slope     (%)=       1.00         2.00
09858>      Length            (m)=      90.00        25.00
09859>      Mannings n             =      .013         .250
09860>
09861>      Max.eff.Inten.(mm/hr)=     274.73        40.83
09862>                   over (min)        2.00         9.00
09863>      Storage Coeff.  (min)=       1.60 (ii)    9.22 (ii)
09864>      Unit Hyd. Tpeak (min)=       2.00         9.00
09865>      Unit Hyd. peak  (cms)=        .64          .12
09866>                                                          *TOTALS*
09867>      PEAK FLOW       (cms)=        .17          .04          .183 (iii)
09868>      TIME TO PEAK    (hrs)=       1.00         1.18         1.000
09869>      RUNOFF VOLUME    (mm)=      84.60        15.87        33.050
09870>      TOTAL RAINFALL   (mm)=      86.60        86.60        86.603
09871>      RUNOFF COEFFICIENT   =        .98          .18          .382
09872>
09873>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
09874>            CN* =  39.0    Ia = Dep. Storage  (Above)
09875>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
09876>            THAN THE STORAGE COEFFICIENT.
09877>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
09878>
09879> ----------------------------------------------------------------------------
09880> 001:0422----------------------------------------------------------------------------
09881> ----------------------
09882> | COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .119  (cms)
09883> | TotalHyd 02:C208   |   Number of inlets in system [NINLET] =      1
09884> ----------------------   Total minor system capacity         =    .119  (cms)
09885>                          Total major system storage [TMJSTO] =      0.(cu.m.)
09886>
09887>                    ID: NHYD        AREA     QPEAK     TPEAK     R.V.      DWF
09888>                                     (ha)     (cms)     (hrs)     (mm)    (cms)
09889>      TOTAL HYD.   02:C208          .93      .183     1.000   33.050     .000
09890>      ================================================================
09891>      MAJOR SYST   06:toET2          .05      .065     1.000   33.050     .000
09892>      MINOR SYST   05:toSWMF         .88      .119      .950   33.050     .000
09893>
09894>      NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
09895>
09896> ----------------------------------------------------------------------------
09897> 001:0423----------------------------------------------------------------------------
09898> ----------------------
09899> | CALIB STANDHYD     |   Area    (ha)=    1.29
09900> | 02:C203   DT= 1.00 |   Total Imp(%)=   68.00   Dir. Conn.(%)=   66.00
09901> ----------------------
09902>                              IMPERVIOUS    PERVIOUS (i)
09903>      Surface Area     (ha)=        .88          .41
09904>      Dep. Storage     (mm)=       2.00         5.00
09905>      Average Slope     (%)=        .50         2.00
09906>      Length            (m)=     100.00       100.00
09907>      Mannings n             =      .013         .250
09908>
09909>      Max.eff.Inten.(mm/hr)=     274.73        22.73
09910>                   over (min)        2.00        24.00
09911>      Storage Coeff.  (min)=       2.10 (ii)   24.22 (ii)
09912>      Unit Hyd. Tpeak (min)=       2.00        24.00
09913>      Unit Hyd. peak  (cms)=        .54          .05
09914>                                                          *TOTALS*
09915>      PEAK FLOW       (cms)=        .60          .01          .599 (iii)
09916>      TIME TO PEAK    (hrs)=       1.00         1.47         1.000
09917>      RUNOFF VOLUME    (mm)=      84.60        14.71        60.841
09918>      TOTAL RAINFALL   (mm)=      86.60        86.60        86.603
09919>      RUNOFF COEFFICIENT   =        .98          .17          .703
09920>
09921>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
09922>            CN* =  39.0    Ia = Dep. Storage  (Above)
09923>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
09924>            THAN THE STORAGE COEFFICIENT.
09925>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
09926>
09927> ----------------------------------------------------------------------------
09928> 001:0424----------------------------------------------------------------------------
09929> ------------------------
09930> | ADD HYD (toSWMF    ) | ID: NHYD          AREA     QPEAK   TPEAK   R.V.    DWF
09931> ------------------------                   (ha)     (cms)   (hrs)   (mm)   (cms)
09932>                      ID1 01:C202           9.66    2.251    1.00  36.60    .000
09933>                     +ID2 02:C203           1.29     .599    1.00  60.84    .000
09934>                     +ID3 03:toSWMF1         .43     .064     .97  33.05    .000
09935>                     +ID4 05:toSWMF2         .88     .119     .95  33.05    .000
09936>                      ============================================================
09937>                      SUM 07:toSWMF        12.25    3.033    1.00  38.77    .000
09938>
09939>    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
09940>
09941> ----------------------------------------------------------------------------
09942> 001:0425----------------------------------------------------------------------------
09943> ----------------------
09944> | ROUTE RESERVOIR    |    Requested routing time step =  1.0 min.
09945> |  IN>07:(toSWMF)    |
09946> | OUT<01:(SWMF  )    |    =========  OUTLFOW STORAGE TABLE  =========
09947> ----------------------    OUTFLOW     STORAGE    |  OUTFLOW     STORAGE
09948>                             (cms)     (ha.m.)    |    (cms)     (ha.m.)
09949>                              .000   .0000E+00     |     .340   .2740E+00
09950>                              .011   .2900E-01     |     .697   .3140E+00
09951>                              .015   .6000E-01     |    1.206   .3540E+00
09952>                              .019   .9200E-01     |    1.880   .3960E+00
09953>                              .022   .1260E+00     |    2.734   .4380E+00
09954>                              .024   .1610E+00     |    3.779   .4820E+00
09955>                              .027   .1980E+00     |    5.029   .5260E+00
09956>                              .120   .2360E+00     |     .000   .0000E+00
09957>
09958>      ROUTING RESULTS             AREA     QPEAK     TPEAK       R.V.
09959>      ---------------------        (ha)     (cms)     (hrs)       (mm)
09960>      INFLOW >07: (toSWMF)       12.25     3.033     1.000     38.773
09961>      OUTFLOW<01: (SWMF  )       12.25      .562     1.483     38.773
09962>     OVERFLOW<02: (OverQ )         .00      .000      .000       .000
09963>
09964>                     TOTAL NUMBER OF SIMULATED OVERFLOWS  =        0
09965>                     CUMULATIVE TIME OF OVERFLOWS  (hours)=      .00
09966>                     PERCENTAGE OF TIME OVERFLOWING    (%)=      .00
09967>
09968>
09969>                     PEAK   FLOW   REDUCTION [Qout/Qin](%)=   18.544
09970>                     TIME SHIFT OF PEAK FLOW         (min)=    29.00
09971>                     MAXIMUM  STORAGE   USED       (ha.m.)=.2989E+00
09972>
09973> ----------------------------------------------------------------------------
09974> 001:0426----------------------------------------------------------------------------
09975> ----------------------
09976> | CALIB STANDHYD     |   Area    (ha)=   18.54
09977> | 03:EX-2   DT= 1.00 |   Total Imp(%)=   35.00   Dir. Conn.(%)=   25.00
09978> ----------------------
09979>                              IMPERVIOUS    PERVIOUS (i)
09980>      Surface Area     (ha)=       6.49        12.05
09981>      Dep. Storage     (mm)=       2.00         5.00
09982>      Average Slope     (%)=       1.00         2.00
09983>      Length            (m)=      90.00        50.00
09984>      Mannings n             =      .013         .250
09985>
09986>      Max.eff.Inten.(mm/hr)=     274.73        34.87
09987>                   over (min)        2.00        14.00
09988>      Storage Coeff.  (min)=       1.60 (ii)   13.90 (ii)
09989>      Unit Hyd. Tpeak (min)=       2.00        14.00
09990>      Unit Hyd. peak  (cms)=        .64          .08
```

```
09991>                                                          *TOTALS*
09992>      PEAK FLOW       (cms)=       3.39          .71          3.512 (iii)
09993>      TIME TO PEAK    (hrs)=       1.00         1.28          1.000
09994>      RUNOFF VOLUME    (mm)=      84.60        15.87         33.050
09995>      TOTAL RAINFALL   (mm)=      86.60        86.60         86.603
09996>      RUNOFF COEFFICIENT   =        .98          .18           .382
09997>
09998>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
09999>            CN* = 39.0    Ia = Dep. Storage  (Above)
10000>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
10001>            THAN THE STORAGE COEFFICIENT.
10002>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
10003>
10004> ------------------------------------------------------------------------------
10005> 001:0427--------------------------------------------------------------------------
10006> ----------------------
10007> | CALIB STANDHYD     |   Area    (ha)=     .51
10008> | 05:C209   DT= 1.00 |   Total Imp(%)=   61.00   Dir. Conn.(%)=   55.00
10009> ----------------------
10010>                              IMPERVIOUS    PERVIOUS (i)
10011>      Surface Area     (ha)=        .31          .20
10012>      Dep. Storage     (mm)=       2.00         5.00
10013>      Average Slope     (%)=       1.00         2.00
10014>      Length            (m)=      90.00        10.00
10015>      Mannings n            =       .013         .250
10016>
10017>      Max.eff.Inten.(mm/hr)=     274.73        43.35
10018>                    over (min)        2.00         6.00
10019>      Storage Coeff.  (min)=       1.60 (ii)    5.89 (ii)
10020>      Unit Hyd. Tpeak (min)=       2.00         6.00
10021>      Unit Hyd. peak  (cms)=        .64          .19
10022>                                                          *TOTALS*
10023>      PEAK FLOW       (cms)=        .21          .02           .214 (iii)
10024>      TIME TO PEAK    (hrs)=       1.00         1.12          1.000
10025>      RUNOFF VOLUME    (mm)=      84.60        15.87         53.671
10026>      TOTAL RAINFALL   (mm)=      86.60        86.60         86.603
10027>      RUNOFF COEFFICIENT   =        .98          .18           .620
10028>
10029>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
10030>            CN* = 39.0    Ia = Dep. Storage  (Above)
10031>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
10032>            THAN THE STORAGE COEFFICIENT.
10033>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
10034>
10035> ------------------------------------------------------------------------------
10036> 001:0428--------------------------------------------------------------------------
10037> ----------------------
10038> | COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .109  (cms)
10039> | TotalHyd 05:C209   |   Number of inlets in system [NINLET] =      1
10040> ----------------------   Total minor system capacity          =    .109  (cms)
10041>                          Total major system storage [TMJSTO] =      0.(cu.m.)
10042>
10043>                  ID: NHYD        AREA     QPEAK     TPEAK     R.V.      DWF
10044>                                   (ha)     (cms)     (hrs)     (mm)    (cms)
10045>      TOTAL HYD.   05:C209          .51      .214     1.000    53.671     .000
10046>      ================================================================
10047>      MAJOR SYST   08:toET3         .06      .104     1.000    53.671     .000
10048>      MINOR SYST   07:toWT1         .45      .109      .950    53.671     .000
10049>
10050>      NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
10051>
10052> ------------------------------------------------------------------------------
10053> 001:0429--------------------------------------------------------------------------
10054> ----------------------
10055> | ADD HYD (EAST-T    ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
10056> ----------------------                    (ha)     (cms)   (hrs)   (mm)   (cms)
10057>                        ID1 01:SWMF       12.25     .562    1.48  38.77    .000
10058>                       +ID2 02:OverQ        .00     .000     .00    .00    .000
10059>                       +ID3 03:EX-2       18.54    3.512    1.00  33.05    .000
10060>                       +ID4 04:toET1        .01     .023    1.00  33.05    .000
10061>                       +ID5 06:toET2        .05     .065    1.00  33.05    .000
10062>                       +ID6 08:toET3        .06     .104    1.00  53.67    .000
10063>                        ================================================
10064>                        SUM 05:EAST-T      30.92    3.725    1.00  35.36    .000
10065>
10066>    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
10067>
10068> ------------------------------------------------------------------------------
10069> 001:0430--------------------------------------------------------------------------
10070> ----------------------
10071> | CALIB STANDHYD     |   Area    (ha)=     .39
10072> | 01:C210   DT= 1.00 |   Total Imp(%)=   90.00   Dir. Conn.(%)=   90.00
10073> ----------------------
10074>                              IMPERVIOUS    PERVIOUS (i)
10075>      Surface Area     (ha)=        .35          .04
10076>      Dep. Storage     (mm)=       2.00         5.00
10077>      Average Slope     (%)=       1.00         2.00
10078>      Length            (m)=      90.00        10.00
10079>      Mannings n            =       .013         .250
10080>
10081>      Max.eff.Inten.(mm/hr)=     274.73        32.53
10082>                    over (min)        2.00         6.00
10083>      Storage Coeff.  (min)=       1.60 (ii)    6.42 (ii)
10084>      Unit Hyd. Tpeak (min)=       2.00         6.00
10085>      Unit Hyd. peak  (cms)=        .64          .18
10086>                                                          *TOTALS*
10087>      PEAK FLOW       (cms)=        .26          .00           .258 (iii)
10088>      TIME TO PEAK    (hrs)=       1.00         1.13          1.000
10089>      RUNOFF VOLUME    (mm)=      84.60        13.91         77.533
10090>      TOTAL RAINFALL   (mm)=      86.60        86.60         86.603
10091>      RUNOFF COEFFICIENT   =        .98          .16           .895
10092>
10093>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
10094>            CN* = 39.0    Ia = Dep. Storage  (Above)
10095>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
10096>            THAN THE STORAGE COEFFICIENT.
10097>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
10098>
10099> ------------------------------------------------------------------------------
10100> 001:0431--------------------------------------------------------------------------
10101> ----------------------
10102> | CALIB NASHYD       |   Area    (ha)=    7.98   Curve Number   (CN)=62.00
10103> | 02:C206   DT= 1.00 |   Ia      (mm)=   8.000   # of Linear Res.(N)= 3.00
10104> ----------------------   U.H. Tp(hrs)=    .540
10105>
10106>      Unit Hyd Qpeak  (cms)=     .564
10107>
10108>      PEAK FLOW       (cms)=     .399 (i)
10109>      TIME TO PEAK    (hrs)=    1.733
10110>      RUNOFF VOLUME    (mm)=   26.372
10111>      TOTAL RAINFALL   (mm)=   86.603
10112>      RUNOFF COEFFICIENT   =     .305
10113>
10114>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
10115>
10116> ------------------------------------------------------------------------------
10117> 001:0432--------------------------------------------------------------------------
10118> ----------------------
10119> | CALIB STANDHYD     |   Area    (ha)=     .54
10120> | 03:C107   DT= 1.00 |   Total Imp(%)=   75.00   Dir. Conn.(%)=    1.00
10121> ----------------------
10122>                              IMPERVIOUS    PERVIOUS (i)
10123>      Surface Area     (ha)=        .41          .14
10124>      Dep. Storage     (mm)=       2.00         5.00
10125>      Average Slope     (%)=       1.00         2.00
10126>      Length            (m)=      90.00        40.00
10127>      Mannings n            =       .013         .250
10128>
10129>      Max.eff.Inten.(mm/hr)=     274.73       419.77
10130>                    over (min)        2.00         6.00
10131>      Storage Coeff.  (min)=       1.60 (ii)    5.58 (ii)
10132>      Unit Hyd. Tpeak (min)=       2.00         6.00
10133>      Unit Hyd. peak  (cms)=        .64          .20
10134>                                                          *TOTALS*
10135>      PEAK FLOW       (cms)=        .00          .11           .114 (iii)
10136>      TIME TO PEAK    (hrs)=       1.00         1.08          1.083
10137>      RUNOFF VOLUME    (mm)=      84.60        39.23         39.680
10138>      TOTAL RAINFALL   (mm)=      86.60        86.60         86.603
10139>      RUNOFF COEFFICIENT   =        .98          .45           .458
10140>
10141>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
10142>            CN* = 39.0    Ia = Dep. Storage  (Above)
10143>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
10144>            THAN THE STORAGE COEFFICIENT.
10145>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
10146>
10147> ------------------------------------------------------------------------------
10148> 001:0433--------------------------------------------------------------------------
10149> ----------------------
10150> | ADD HYD (WEST-T    ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
10151> ----------------------                    (ha)     (cms)   (hrs)   (mm)   (cms)
10152>                        ID1 01:C210          .39      .258    1.00  77.53    .000
10153>                       +ID2 02:C206         7.98      .399    1.73  26.37    .000
10154>                       +ID3 03:C107          .54      .114    1.08  39.68    .000
10155>                       +ID4 07:toWT1         .45      .109     .95  53.67    .000
10156>                        ================================================
10157>                        SUM 04:WEST-T        9.36      .452    1.67  30.58    .000
10158>
10159>    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
10160>
10161> ------------------------------------------------------------------------------
10162> 001:0434--------------------------------------------------------------------------
10163> ----------------------
10164> | CALIB NASHYD       |   Area    (ha)=    6.96   Curve Number   (CN)=32.00
10165> | 01:C201   DT= 1.00 |   Ia      (mm)=   8.000   # of Linear Res.(N)= 3.00
10166> ----------------------   U.H. Tp(hrs)=    .510
10167>
10168>      Unit Hyd Qpeak  (cms)=     .521
10169>
10170>      PEAK FLOW       (cms)=     .133 (i)
10171>      TIME TO PEAK    (hrs)=    1.717
10172>      RUNOFF VOLUME    (mm)=    9.992
10173>      TOTAL RAINFALL   (mm)=   86.603
10174>      RUNOFF COEFFICIENT   =     .115
10175>
10176>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
10177>
10178> ------------------------------------------------------------------------------
10179> 001:0435--------------------------------------------------------------------------
10180> ----------------------
10181> | CALIB NASHYD       |   Area    (ha)=    2.04   Curve Number   (CN)=55.00
10182> | 02:C204   DT= 1.00 |   Ia      (mm)=   8.000   # of Linear Res.(N)= 3.00
10183> ----------------------   U.H. Tp(hrs)=    .480
10184>
10185>      Unit Hyd Qpeak  (cms)=     .162
10186>
10187>      PEAK FLOW       (cms)=     .090 (i)
10188>      TIME TO PEAK    (hrs)=    1.650
10189>      RUNOFF VOLUME    (mm)=   21.571
10190>      TOTAL RAINFALL   (mm)=   86.603
10191>      RUNOFF COEFFICIENT   =     .249
10192>
10193>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
10194>
10195> ------------------------------------------------------------------------------
10196> 001:0436--------------------------------------------------------------------------
10197> ----------------------
10198> | ADD HYD (NORTH-W   ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
10199> ----------------------                    (ha)     (cms)   (hrs)   (mm)   (cms)
10200>                        ID1 01:C201          6.96      .133    1.72   9.99    .000
10201>                       +ID2 02:C204          2.04      .090    1.65  21.57    .000
10202>                        ================================================
10203>                        SUM 03:NORTH-W       9.00      .222    1.68  12.62    .000
10204>
10205>    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
10206>
10207> ------------------------------------------------------------------------------
10208> 001:0437--------------------------------------------------------------------------
10209> ----------------------
10210> | CALIB NASHYD       |   Area    (ha)=   11.96   Curve Number   (CN)=44.00
10211> | 01:C205   DT= 1.00 |   Ia      (mm)=   8.000   # of Linear Res.(N)= 3.00
10212> ----------------------   U.H. Tp(hrs)=    .870
10213>
10214>      Unit Hyd Qpeak  (cms)=     .525
10215>
10216>      PEAK FLOW       (cms)=     .244 (i)
10217>      TIME TO PEAK    (hrs)=    2.167
10218>      RUNOFF VOLUME    (mm)=   15.374
10219>      TOTAL RAINFALL   (mm)=   86.603
10220>      RUNOFF COEFFICIENT   =     .178
10221>
10222>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
10223>
10224> ------------------------------------------------------------------------------
10225> 001:0438--------------------------------------------------------------------------
10226> ----------------------
10227> | CALIB STANDHYD     |   Area    (ha)=     .61
10228> | 02:C108   DT= 1.00 |   Total Imp(%)=   75.00   Dir. Conn.(%)=    1.00
10229> ----------------------
10230>                              IMPERVIOUS    PERVIOUS (i)
10231>      Surface Area     (ha)=        .46          .15
10232>      Dep. Storage     (mm)=       2.00         5.00
10233>      Average Slope     (%)=       1.00         2.00
10234>      Length            (m)=      90.00        40.00
10235>      Mannings n            =       .013         .250
10236>
10237>      Max.eff.Inten.(mm/hr)=     274.73       419.77
10238>                    over (min)        2.00         6.00
10239>      Storage Coeff.  (min)=       1.60 (ii)    5.58 (ii)
10240>      Unit Hyd. Tpeak (min)=       2.00         6.00
10241>      Unit Hyd. peak  (cms)=        .64          .20
10242>                                                          *TOTALS*
10243>      PEAK FLOW       (cms)=        .00          .13           .129 (iii)
10244>      TIME TO PEAK    (hrs)=       1.00         1.08          1.083
10245>      RUNOFF VOLUME    (mm)=      84.60        39.23         39.680
10246>      TOTAL RAINFALL   (mm)=      86.60        86.60         86.603
10247>      RUNOFF COEFFICIENT   =        .98          .45           .458
10248>
10249>        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
10250>            CN* = 39.0    Ia = Dep. Storage  (Above)
10251>       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
10252>            THAN THE STORAGE COEFFICIENT.
10253>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
10254>
10255> ------------------------------------------------------------------------------
10256> 001:0439--------------------------------------------------------------------------
10257> ----------------------
10258> | ADD HYD (CENTER-W  ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
10259> ----------------------                    (ha)     (cms)   (hrs)   (mm)   (cms)
10260>                        ID1 01:C205         11.96      .244    2.17  15.37    .000
```

```
                    +ID2 02:C108           .61     .129    1.08  39.68    .000
                     ============================================================
                     SUM 04:CENTER-W      12.57     .255    2.13  16.55    .000

   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
001:0440--------------------------------------------------------------------------
*#*****************************************************************************
*#                          ==========================================
*#                           PROSPOSED ULTIMATE DEVELOPMENT CONDITIONS
*#                          ==========================================
*#*****************************************************************************
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .43
| 01:B100   DT= 1.00 |   Total Imp(%)=   80.00   Dir. Conn.(%)=   60.00
----------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=         .34          .09
     Dep. Storage     (mm)=        2.00         5.00
     Average Slope     (%)=        1.00         2.00
     Length            (m)=       90.00        25.00
     Mannings n           =         .013         .250

     Max.eff.Inten.(mm/hr)=     274.73       120.39
                   over (min)        2.00         7.00
     Storage Coeff.  (min)=        1.60 (ii)    6.54 (ii)
     Unit Hyd. Tpeak (min)=        2.00         7.00
     Unit Hyd. peak  (cms)=         .64          .17
                                                          *TOTALS*
     PEAK FLOW       (cms)=         .19          .02          .198 (iii)
     TIME TO PEAK    (hrs)=        1.00         1.12         1.000
     RUNOFF VOLUME    (mm)=       84.60        25.02        60.768
     TOTAL RAINFALL   (mm)=       86.60        86.60        86.603
     RUNOFF COEFFICIENT   =         .98          .29          .702

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  39.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
001:0441--------------------------------------------------------------------------
----------------------
| COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .077  (cms)
| TotalHyd 01:B100   |   Number of inlets in system [NINLET] =      1
----------------------   Total minor system capacity         =    .077  (cms)
                         Total major system storage [TMJSTO] =      0.(cu.m.)

                   ID: NHYD        AREA     QPEAK     TPEAK     R.V.      DWF
                                    (ha)     (cms)     (hrs)     (mm)     (cms)
     TOTAL HYD.   01:B100          .43      .198     1.000   60.768     .000
     ==========================================================================
     MAJOR SYST   03:toCW1         .08      .121     1.000   60.768     .000
     MINOR SYST   02:toSWMF        .35      .077      .933   60.768     .000

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
001:0442--------------------------------------------------------------------------
----------------------
| CALIB STANDHYD     |   Area    (ha)=    4.00
| 01:C303   DT= 1.00 |   Total Imp(%)=   40.00   Dir. Conn.(%)=   30.00
----------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        1.60         2.40
     Dep. Storage     (mm)=        2.00         5.00
     Average Slope     (%)=        1.00         2.00
     Length            (m)=       90.00        25.00
     Mannings n           =         .013         .250

     Max.eff.Inten.(mm/hr)=     274.73       41.73
                   over (min)        2.00         9.00
     Storage Coeff.  (min)=        1.60 (ii)    9.15 (ii)
     Unit Hyd. Tpeak (min)=        2.00         9.00
     Unit Hyd. peak  (cms)=         .64          .12
                                                          *TOTALS*
     PEAK FLOW       (cms)=         .88          .18          .932 (iii)
     TIME TO PEAK    (hrs)=        1.00         1.18         1.000
     RUNOFF VOLUME    (mm)=       84.60        16.02        36.598
     TOTAL RAINFALL   (mm)=       86.60        86.60        86.603
     RUNOFF COEFFICIENT   =         .98          .19          .423

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  39.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
001:0443--------------------------------------------------------------------------
----------------------
| COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .440  (cms)
| TotalHyd 01:C303   |   Number of inlets in system [NINLET] =      1
----------------------   Total minor system capacity         =    .440  (cms)
                         Total major system storage [TMJSTO] =      0.(cu.m.)

                   ID: NHYD        AREA     QPEAK     TPEAK     R.V.      DWF
                                    (ha)     (cms)     (hrs)     (mm)     (cms)
     TOTAL HYD.   01:C303          4.00      .932     1.000   36.598     .000
     ==========================================================================
     MAJOR SYST   05:toCW2         .52      .492     1.000   36.598     .000
     MINOR SYST   04:toSWMF       3.48      .440      .933   36.598     .000

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
001:0444--------------------------------------------------------------------------
----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.14
| 01:C309   DT= 1.00 |   Total Imp(%)=   62.00   Dir. Conn.(%)=   57.00
----------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=         .71          .43
     Dep. Storage     (mm)=        2.00         5.00
     Average Slope     (%)=        1.00         2.00
     Length            (m)=       90.00        25.00
     Mannings n           =         .013         .250

     Max.eff.Inten.(mm/hr)=     274.73       39.30
                   over (min)        2.00         9.00
     Storage Coeff.  (min)=        1.60 (ii)    9.34 (ii)
     Unit Hyd. Tpeak (min)=        2.00         9.00
     Unit Hyd. peak  (cms)=         .64          .12
                                                          *TOTALS*
     PEAK FLOW       (cms)=         .48          .03          .484 (iii)
     TIME TO PEAK    (hrs)=        1.00         1.18         1.000
     RUNOFF VOLUME    (mm)=       84.60        15.59        54.927
     TOTAL RAINFALL   (mm)=       86.60        86.60        86.603
     RUNOFF COEFFICIENT   =         .98          .18          .634

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  39.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
001:0445--------------------------------------------------------------------------
----------------------
| COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .237  (cms)
| TotalHyd 01:C309   |   Number of inlets in system [NINLET] =      1
----------------------   Total minor system capacity         =    .237  (cms)
                         Total major system storage [TMJSTO] =      0.(cu.m.)

                   ID: NHYD        AREA     QPEAK     TPEAK     R.V.      DWF
                                    (ha)     (cms)     (hrs)     (mm)     (cms)
     TOTAL HYD.   01:C309          1.14      .484     1.000   54.927     .000
     ==========================================================================
     MAJOR SYST   07:toCW3         .15      .247     1.000   54.927     .000
     MINOR SYST   06:toSWMF        .99      .237      .933   54.927     .000

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
001:0446--------------------------------------------------------------------------
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .27
| 01:C308   DT= 1.00 |   Total Imp(%)=   90.00   Dir. Conn.(%)=   90.00
----------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=         .24          .03
     Dep. Storage     (mm)=        2.00         5.00
     Average Slope     (%)=        1.00         2.00
     Length            (m)=       90.00        40.00
     Mannings n           =         .013         .250

     Max.eff.Inten.(mm/hr)=     274.73       26.28
                   over (min)        2.00        14.00
     Storage Coeff.  (min)=        1.60 (ii)   13.65 (ii)
     Unit Hyd. Tpeak (min)=        2.00        14.00
     Unit Hyd. peak  (cms)=         .64          .08
                                                          *TOTALS*
     PEAK FLOW       (cms)=         .18          .00          .178 (iii)
     TIME TO PEAK    (hrs)=        1.00         1.28         1.000
     RUNOFF VOLUME    (mm)=       84.60        13.91        77.533
     TOTAL RAINFALL   (mm)=       86.60        86.60        86.603
     RUNOFF COEFFICIENT   =         .98          .16          .895

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  39.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
001:0447--------------------------------------------------------------------------
----------------------
| COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .025  (cms)
| TotalHyd 01:C308   |   Number of inlets in system [NINLET] =      1
----------------------   Total minor system capacity         =    .025  (cms)
                         Total major system storage [TMJSTO] =      0.(cu.m.)

                   ID: NHYD        AREA     QPEAK     TPEAK     R.V.      DWF
                                    (ha)     (cms)     (hrs)     (mm)     (cms)
     TOTAL HYD.   01:C308          .27      .178     1.000   77.533     .000
     ==========================================================================
     MAJOR SYST   09:toCW4         .12      .153     1.000   77.533     .000
     MINOR SYST   08:toSWMF        .15      .025      .800   77.533     .000

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
001:0448--------------------------------------------------------------------------
----------------------
| CALIB NASHYD       |   Area    (ha)=    9.89   Curve Number   (CN)=34.00
| 01:C304   DT= 1.00 |   Ia      (mm)=   8.000   # of Linear Res.(N)= 3.00
----------------------   U.H. Tp(hrs)=    .510

     Unit Hyd Qpeak  (cms)=     .741

     PEAK FLOW       (cms)=     .205 (i)
     TIME TO PEAK    (hrs)=    1.717
     RUNOFF VOLUME    (mm)=   10.808
     TOTAL RAINFALL   (mm)=   86.603
     RUNOFF COEFFICIENT   =     .125

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
001:0449--------------------------------------------------------------------------
------------------------
| ADD HYD (CENTER-W  ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
------------------------                   (ha)     (cms)   (hrs)   (mm)    (cms)
                       ID1 01:C304          9.89     .205    1.72  10.81    .000
                      +ID2 03:toCW1          .08     .121    1.00  60.77    .000
                      +ID3 05:toCW2          .52     .492    1.00  36.60    .000
                      +ID4 07:toCW3          .15     .247    1.00  54.93    .000
                      +ID5 09:toCW4          .12     .153    1.00  77.53    .000
                       ============================================================
                       SUM 10:CENTER-W     10.76    1.019    1.00  13.80    .000

   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
001:0450--------------------------------------------------------------------------
----------------------
| ROUTE RESERVOIR    |   Requested routing time step =  1.0 min.
|  IN>10:(CENTER)    |
| OUT<01:(CW-SSD)    |   =========  OUTLFOW STORAGE TABLE  =========
----------------------   OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
                           (cms)     (ha.m.)   |    (cms)     (ha.m.)
                           .000  .0000E+00     |     .222  .6400E+00
                           .000  .3700E+00     |     .000  .0000E+00

     ROUTING RESULTS            AREA     QPEAK     TPEAK       R.V.
     ---------------             (ha)     (cms)     (hrs)       (mm)
     INFLOW >10: (CENTER)      10.76     1.019     1.000     13.803
     OUTFLOW<01: (CW-SSD)      10.76      .000      .000       .000
    OVERFLOW<03: (toWT1 )        .00      .000      .000       .000

                   TOTAL NUMBER OF SIMULATED OVERFLOWS  =         0
                   CUMULATIVE TIME OF OVERFLOWS  (hours)=      .00
                   PERCENTAGE OF TIME OVERFLOWING    (%)=      .00


                   PEAK   FLOW   REDUCTION [Qout/Qin](%)=     .000
                   TIME SHIFT OF PEAK FLOW          (min)=   -60.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=.1486E+00

      *** WARNING: Outflow volume is less than inflow volume.
--------------------------------------------------------------------------------
001:0451--------------------------------------------------------------------------
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .44
| 05:C207   DT= 1.00 |   Total Imp(%)=   35.00   Dir. Conn.(%)=   25.00
----------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=         .15          .29
```

```
      Dep. Storage     (mm)=       2.00         5.00
      Average Slope     (%)=       1.00         2.00
      Length            (m)=      90.00        25.00
      Mannings n            =       .013         .250

      Max.eff.Inten.(mm/hr)=     274.73        40.83
                   over (min)       2.00         9.00
      Storage Coeff.  (min)=       1.60 (ii)    9.22 (ii)
      Unit Hyd. Tpeak (min)=       2.00         9.00
      Unit Hyd. peak  (cms)=        .64          .12
                                                      *TOTALS*
      PEAK FLOW       (cms)=        .08          .02          .087 (iii)
      TIME TO PEAK    (hrs)=       1.00         1.18         1.000
      RUNOFF VOLUME    (mm)=      84.60        15.87        33.050
      TOTAL RAINFALL   (mm)=      86.60        86.60        86.603
      RUNOFF COEFFICIENT   =        .98          .18          .382

        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN* =  39.0    Ia = Dep. Storage  (Above)
       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
            THAN THE STORAGE COEFFICIENT.
      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

001:0452----------------------------------------------------------------------
----------------------
| COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .064  (cms)
| TotalHyd 05:C207   |   Number of inlets in system [NINLET] =       1
----------------------   Total minor system capacity         =    .064  (cms)
                         Total major system storage [TMJSTO] =       0.(cu.m.)

                  ID: NHYD        AREA     QPEAK     TPEAK     R.V.      DWF
                                   (ha)     (cms)     (hrs)     (mm)     (cms)
      TOTAL HYD.   05:C207          .44      .087     1.000    33.050     .000
      ================================================================
      MAJOR SYST   09:toET1         .01      .023     1.000    33.050     .000
      MINOR SYST   07:toSWMF        .43      .064      .967    33.050     .000

      NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

001:0453----------------------------------------------------------------------
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .93
| 05:C208   DT= 1.00 |   Total Imp(%)=   35.00   Dir. Conn.(%)=   25.00
----------------------

                              IMPERVIOUS    PERVIOUS (i)
      Surface Area     (ha)=        .33          .60
      Dep. Storage     (mm)=       2.00         5.00
      Average Slope     (%)=       1.00         2.00
      Length            (m)=      90.00        25.00
      Mannings n            =       .013         .250

      Max.eff.Inten.(mm/hr)=     274.73        40.83
                   over (min)       2.00         9.00
      Storage Coeff.  (min)=       1.60 (ii)    9.22 (ii)
      Unit Hyd. Tpeak (min)=       2.00         9.00
      Unit Hyd. peak  (cms)=        .64          .12
                                                      *TOTALS*
      PEAK FLOW       (cms)=        .17          .04          .183 (iii)
      TIME TO PEAK    (hrs)=       1.00         1.18         1.000
      RUNOFF VOLUME    (mm)=      84.60        15.87        33.050
      TOTAL RAINFALL   (mm)=      86.60        86.60        86.603
      RUNOFF COEFFICIENT   =        .98          .18          .382

        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN* =  39.0    Ia = Dep. Storage  (Above)
       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
            THAN THE STORAGE COEFFICIENT.
      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

001:0454----------------------------------------------------------------------
----------------------
| COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .119  (cms)
| TotalHyd 05:C208   |   Number of inlets in system [NINLET] =       1
----------------------   Total minor system capacity         =    .119  (cms)
                         Total major system storage [TMJSTO] =       0.(cu.m.)

                  ID: NHYD        AREA     QPEAK     TPEAK     R.V.      DWF
                                   (ha)     (cms)     (hrs)     (mm)     (cms)
      TOTAL HYD.   05:C208          .93      .183     1.000    33.050     .000
      ================================================================
      MAJOR SYST   03:toET2         .05      .065     1.000    33.050     .000
      MINOR SYST   01:toSWMF        .88      .119      .950    33.050     .000

      NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

001:0455----------------------------------------------------------------------
----------------------
| ADD HYD (toSWMF1A  ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
----------------------   ID1 01:toSWMF6     (ha)     (cms)   (hrs)   (mm)   (cms)
                         +ID2 02:toSWMF1     .88      .119     .95   33.05    .000
                         +ID3 04:toSWMF2     .35      .077     .93   60.77    .000
                         +ID4 06:toSWMF3    3.48      .440     .93   36.60    .000
                         +ID5 07:toSWMF5     .99      .237     .93   54.93    .000
                         +ID6 08:toSWMF4     .43      .064     .97   33.05    .000
                          ================   .15      .025     .80   77.53    .000
                          SUM 05:toSWMF1A   6.27      .962     .97   41.07    .000

   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

001:0456----------------------------------------------------------------------
----------------------
| CALIB STANDHYD     |   Area    (ha)=   12.10
| 01:C302   DT= 1.00 |   Total Imp(%)=   41.00   Dir. Conn.(%)=   31.00
----------------------

                              IMPERVIOUS    PERVIOUS (i)
      Surface Area     (ha)=       4.96         7.14
      Dep. Storage     (mm)=       2.00         5.00
      Average Slope     (%)=       1.00         2.00
      Length            (m)=      90.00        25.00
      Mannings n            =       .013         .250

      Max.eff.Inten.(mm/hr)=     274.73        41.93
                   over (min)       2.00         9.00
      Storage Coeff.  (min)=       1.60 (ii)    9.14 (ii)
      Unit Hyd. Tpeak (min)=       2.00         9.00
      Unit Hyd. peak  (cms)=        .64          .12
                                                      *TOTALS*
      PEAK FLOW       (cms)=       2.74          .53         2.906 (iii)
      TIME TO PEAK    (hrs)=       1.00         1.18         1.000
      RUNOFF VOLUME    (mm)=      84.60        16.06        37.308
      TOTAL RAINFALL   (mm)=      86.60        86.60        86.603
      RUNOFF COEFFICIENT   =        .98          .19          .431

        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN* =  39.0    Ia = Dep. Storage  (Above)
       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
            THAN THE STORAGE COEFFICIENT.
      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

001:0457----------------------------------------------------------------------
----------------------
| CALIB STANDHYD     |   Area    (ha)=    1.29
| 02:C203   DT= 1.00 |   Total Imp(%)=   68.00   Dir. Conn.(%)=   66.00
----------------------

                              IMPERVIOUS    PERVIOUS (i)
      Surface Area     (ha)=        .88          .41
      Dep. Storage     (mm)=       2.00         5.00
      Average Slope     (%)=        .50         2.00
      Length            (m)=     100.00       100.00
      Mannings n            =       .013         .250

      Max.eff.Inten.(mm/hr)=     274.73        22.73
                   over (min)       2.00        24.00
      Storage Coeff.  (min)=       2.10 (ii)   24.22 (ii)
      Unit Hyd. Tpeak (min)=       2.00        24.00
      Unit Hyd. peak  (cms)=        .54          .05
                                                      *TOTALS*
      PEAK FLOW       (cms)=        .60          .01          .599 (iii)
      TIME TO PEAK    (hrs)=       1.00         1.47         1.000
      RUNOFF VOLUME    (mm)=      84.60        14.71        60.841
      TOTAL RAINFALL   (mm)=      86.60        86.60        86.603
      RUNOFF COEFFICIENT   =        .98          .17          .703

        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN* =  39.0    Ia = Dep. Storage  (Above)
       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
            THAN THE STORAGE COEFFICIENT.
      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

001:0458----------------------------------------------------------------------
----------------------
| ADD HYD (toSWMF2A  ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
----------------------   ID1 01:C302        (ha)     (cms)   (hrs)   (mm)   (cms)
                        +ID2 02:C203       12.10    2.906    1.00   37.31    .000
                        +ID3 05:toSWMF1A    1.29     .599    1.00   60.84    .000
                         ================   6.27     .962     .97   41.07    .000
                         SUM 04:toSWMF2A   19.66    4.468    1.00   40.05    .000

   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

001:0459----------------------------------------------------------------------
----------------------
| ROUTE RESERVOIR    |    Requested routing time step =  1.0 min.
|  IN>04:(toSWMF)    |
| OUT<01:(SWMF  )    |    =========  OUTFLOW STORAGE TABLE  =========
----------------------    OUTFLOW     STORAGE   |  OUTFLOW     STORAGE
                            (cms)      (ha.m.)  |    (cms)     (ha.m.)
                            .000   .0000E+00    |     .340   .2740E+00
                            .011   .2900E-01    |     .697   .3140E+00
                            .015   .6000E-01    |    1.206   .3540E+00
                            .019   .9200E-01    |    1.880   .3960E+00
                            .022   .1260E+00    |    2.734   .4380E+00
                            .024   .1610E+00    |    3.779   .4820E+00
                            .027   .1980E+00    |    5.029   .5260E+00
                            .120   .2360E+00    |    .000   .0000E+00

      ROUTING RESULTS            AREA     QPEAK     TPEAK       R.V.
      ---------------           (ha)     (cms)     (hrs)       (mm)
      INFLOW >04: (toSWMF)     19.66    4.468     1.000      40.051
      OUTFLOW<01: (SWMF  )     19.66    1.656     1.283      40.050
     OVERFLOW<02: (OverQ )       .00     .000      .000       .000

                    TOTAL NUMBER OF SIMULATED OVERFLOWS  =       0
                    CUMULATIVE TIME OF OVERFLOWS  (hours)=      .00
                    PERCENTAGE OF TIME OVERFLOWING    (%)=      .00


                    PEAK   FLOW   REDUCTION [Qout/Qin](%)=   37.068
                    TIME SHIFT OF PEAK FLOW          (min)=   17.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=.3821E+00

001:0460----------------------------------------------------------------------
----------------------
| CALIB STANDHYD     |   Area    (ha)=   18.54
| 04:EX-2    DT= 1.00 |   Total Imp(%)=   35.00   Dir. Conn.(%)=   25.00
----------------------

                              IMPERVIOUS    PERVIOUS (i)
      Surface Area     (ha)=       6.49        12.05
      Dep. Storage     (mm)=       2.00         5.00
      Average Slope     (%)=       1.00         2.00
      Length            (m)=      90.00        50.00
      Mannings n            =       .013         .250

      Max.eff.Inten.(mm/hr)=     274.73        34.87
                   over (min)       2.00        14.00
      Storage Coeff.  (min)=       1.60 (ii)   13.90 (ii)
      Unit Hyd. Tpeak (min)=       2.00        14.00
      Unit Hyd. peak  (cms)=        .64          .08
                                                      *TOTALS*
      PEAK FLOW       (cms)=       3.39          .71         3.512 (iii)
      TIME TO PEAK    (hrs)=       1.00         1.28         1.000
      RUNOFF VOLUME    (mm)=      84.60        15.87        33.050
      TOTAL RAINFALL   (mm)=      86.60        86.60        86.603
      RUNOFF COEFFICIENT   =        .98          .18          .382

        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN* =  39.0    Ia = Dep. Storage  (Above)
       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
            THAN THE STORAGE COEFFICIENT.
      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

001:0461----------------------------------------------------------------------
----------------------
| CALIB STANDHYD     |   Area    (ha)=    .51
| 05:C209   DT= 1.00 |   Total Imp(%)=   61.00   Dir. Conn.(%)=   55.00
----------------------

                              IMPERVIOUS    PERVIOUS (i)
      Surface Area     (ha)=        .31          .20
      Dep. Storage     (mm)=       2.00         5.00
      Average Slope     (%)=       1.00         2.00
      Length            (m)=      90.00        10.00
      Mannings n            =       .013         .250

      Max.eff.Inten.(mm/hr)=     274.73        43.35
                   over (min)       2.00         6.00
      Storage Coeff.  (min)=       1.60 (ii)    5.89 (ii)
      Unit Hyd. Tpeak (min)=       2.00         6.00
      Unit Hyd. peak  (cms)=        .64          .19
                                                      *TOTALS*
      PEAK FLOW       (cms)=        .21          .02          .214 (iii)
      TIME TO PEAK    (hrs)=       1.00         1.12         1.000
      RUNOFF VOLUME    (mm)=      84.60        15.87        53.671
      TOTAL RAINFALL   (mm)=      86.60        86.60        86.603
      RUNOFF COEFFICIENT   =        .98          .18          .620

        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN* =  39.0    Ia = Dep. Storage  (Above)
       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
```

```
          THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

------------------------------------------------------------------------------
001:0462------------------------------------------------------------------------
----------------------
| COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .109  (cms)
| TotalHyd 05:C209   |   Number of inlets in system [NINLET] =       1
----------------------   Total minor system capacity          =    .109  (cms)
                         Total major system storage [TMJSTO] =      0.(cu.m.)

                  ID: NHYD        AREA     QPEAK     TPEAK     R.V.      DWF
                                   (ha)     (cms)     (hrs)     (mm)     (cms)
     TOTAL HYD.   05:C209          .51      .214     1.000   53.671     .000
     ==========================================================================
     MAJOR SYST   07:toET3         .06      .104     1.000   53.671     .000
     MINOR SYST   06:toWT2         .45      .109      .950   53.671     .000

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

------------------------------------------------------------------------------
001:0463------------------------------------------------------------------------
----------------------
| ADD HYD (EAST-T    ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
----------------------                     (ha)     (cms)   (hrs)   (mm)    (cms)
                        ID1 01:SWMF        19.66    1.656   1.28  40.05    .000
                       +ID2 02:OverQ         .00     .000    .00    .00    .000
                       +ID3 03:toET2         .05     .065   1.00  33.05    .000
                       +ID4 04:EX-2        18.54    3.512   1.00  33.05    .000
                       +ID5 07:toET3         .06     .104   1.00  53.67    .000
                       +ID6 09:toET1         .01     .023   1.00  33.05    .000
                        ============================================================
                        SUM 05:EAST-T      38.33    3.767   1.00  36.67    .000

   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

------------------------------------------------------------------------------
001:0464------------------------------------------------------------------------
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .39
| 01:C210   DT= 1.00 |   Total Imp(%)=   90.00   Dir. Conn.(%)=   90.00
----------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .35          .04
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      90.00        10.00
     Mannings n             =     .013         .250

     Max.eff.Inten.(mm/hr)=     274.73        32.53
                   over (min)      2.00         6.00
     Storage Coeff.  (min)=       1.60 (ii)    6.42 (ii)
     Unit Hyd. Tpeak (min)=       2.00         6.00
     Unit Hyd. peak  (cms)=        .64          .18
                                                        *TOTALS*
     PEAK FLOW       (cms)=        .26          .00          .258 (iii)
     TIME TO PEAK    (hrs)=       1.00         1.13         1.000
     RUNOFF VOLUME    (mm)=      84.60        13.91        77.533
     TOTAL RAINFALL   (mm)=      86.60        86.60        86.603
     RUNOFF COEFFICIENT   =        .98          .16          .895

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  39.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

------------------------------------------------------------------------------
001:0465------------------------------------------------------------------------
----------------------
| CALIB STANDHYD     |   Area    (ha)=     .27
| 02:C307   DT= 1.00 |   Total Imp(%)=   90.00   Dir. Conn.(%)=    1.00
----------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        .24          .03
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      90.00        10.00
     Mannings n             =     .013         .250

     Max.eff.Inten.(mm/hr)=     274.73      1964.55
                   over (min)      2.00         3.00
     Storage Coeff.  (min)=       1.60 (ii)    2.53 (ii)
     Unit Hyd. Tpeak (min)=       2.00         3.00
     Unit Hyd. peak  (cms)=        .64          .42
                                                        *TOTALS*
     PEAK FLOW       (cms)=        .00          .12          .122 (iii)
     TIME TO PEAK    (hrs)=       1.00         1.02         1.017
     RUNOFF VOLUME    (mm)=      84.60        58.73        58.985
     TOTAL RAINFALL   (mm)=      86.60        86.60        86.603
     RUNOFF COEFFICIENT   =        .98          .68          .681

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  39.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

------------------------------------------------------------------------------
001:0466------------------------------------------------------------------------
----------------------
| CALIB STANDHYD     |   Area    (ha)=    2.61
| 03:C305   DT= 1.00 |   Total Imp(%)=   76.00   Dir. Conn.(%)=   57.00
----------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.98          .63
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      90.00        25.00
     Mannings n             =     .013         .250

     Max.eff.Inten.(mm/hr)=     274.73        98.03
                   over (min)      2.00         7.00
     Storage Coeff.  (min)=       1.60 (ii)    6.97 (ii)
     Unit Hyd. Tpeak (min)=       2.00         7.00
     Unit Hyd. peak  (cms)=        .64          .16
                                                        *TOTALS*
     PEAK FLOW       (cms)=       1.09          .12         1.140 (iii)
     TIME TO PEAK    (hrs)=       1.00         1.13         1.000
     RUNOFF VOLUME    (mm)=      84.60        22.99        58.109
     TOTAL RAINFALL   (mm)=      86.60        86.60        86.603
     RUNOFF COEFFICIENT   =        .98          .27          .671

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  39.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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001:0467------------------------------------------------------------------------
----------------------
| COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .030  (cms)
| TotalHyd 03:C305   |   Number of inlets in system [NINLET] =       1
----------------------   Total minor system capacity          =    .030  (cms)

                         Total major system storage [TMJSTO] =     730.(cu.m.)

                  ID: NHYD        AREA     QPEAK     TPEAK     R.V.      DWF
                                   (ha)     (cms)     (hrs)     (mm)     (cms)
     TOTAL HYD.   03:C305          2.61     1.140     1.000   58.109     .000
     ==========================================================================
     MAJOR SYST   07:toWT3          .85      .468     1.133   58.109     .000
     MINOR SYST   04:toPD          1.76      .030      .400   58.210     .000

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

     Maximum MAJOR SYSTEM storage used =     730.(cu.m.)

------------------------------------------------------------------------------
001:0468------------------------------------------------------------------------
----------------------
| CALIB NASHYD       |   Area    (ha)=    1.77   Curve Number   (CN)=36.00
| 03:C306   DT= 1.00 |   Ia      (mm)=   8.000   # of Linear Res.(N)= 3.00
----------------------   U.H. Tp(hrs)=    .580

     Unit Hyd Qpeak  (cms)=     .117

     PEAK FLOW       (cms)=     .036 (i)
     TIME TO PEAK    (hrs)=    1.800
     RUNOFF VOLUME    (mm)=   11.654
     TOTAL RAINFALL   (mm)=   86.603
     RUNOFF COEFFICIENT   =     .135

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

------------------------------------------------------------------------------
001:0469------------------------------------------------------------------------
----------------------
| ADD HYD (WEST-T    ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
----------------------                     (ha)     (cms)   (hrs)   (mm)    (cms)
                        ID1 01:C210         .39      .258   1.00  77.53    .000
                       +ID2 02:C307         .27      .122   1.02  58.98    .000
                       +ID3 03:C306        1.77      .036   1.80  11.65    .000
                       +ID4 04:toPD        1.76      .030    .40  58.21    .000
                       +ID5 06:toWT2        .45      .109    .95  53.67    .000
                       +ID6 07:toWT3        .85      .468   1.13  58.11    .000
                        ============================================================
                        SUM 08:WEST-T       5.49      .773   1.12  44.22    .000

   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

------------------------------------------------------------------------------
001:0470------------------------------------------------------------------------
----------------------
| CALIB NASHYD       |   Area    (ha)=    7.88   Curve Number   (CN)=32.00
| 01:C301   DT= 1.00 |   Ia      (mm)=   8.000   # of Linear Res.(N)= 3.00
----------------------   U.H. Tp(hrs)=    .510

     Unit Hyd Qpeak  (cms)=     .590

     PEAK FLOW       (cms)=     .151 (i)
     TIME TO PEAK    (hrs)=    1.717
     RUNOFF VOLUME    (mm)=    9.992
     TOTAL RAINFALL   (mm)=   86.603
     RUNOFF COEFFICIENT   =     .115

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

------------------------------------------------------------------------------
001:0471------------------------------------------------------------------------
------------------------------------------------------------------------------
******************************************************************************
     WARNINGS / ERRORS / NOTES
     -------------------------
001:0048 ROUTE RESERVOIR
      *** WARNING: Outflow volume is less than inflow volume.
001:0115 ROUTE RESERVOIR
      *** WARNING: Outflow volume is less than inflow volume.
001:0182 ROUTE RESERVOIR
      *** WARNING: Outflow volume is less than inflow volume.
001:0249 ROUTE RESERVOIR
      *** WARNING: Outflow volume is less than inflow volume.
001:0316 ROUTE RESERVOIR
      *** WARNING: Outflow volume is less than inflow volume.
001:0383 ROUTE RESERVOIR
      *** WARNING: Outflow volume is less than inflow volume.
001:0450 ROUTE RESERVOIR
      *** WARNING: Outflow volume is less than inflow volume.
   Simulation ended on 2024-07-15     at 15:59:01
==============================================================================
```

```
10531> ------------------------------------------------------------------------------
10532> 001:0450------------------------------------------------------------------------
10533>       FINISH
10534> ------------------------------------------------------------------------------
10535> ******************************************************************************
10536>      WARNINGS / ERRORS / NOTES
10537>      ------------------------
10538>  001:0058 ROUTE RESERVOIR
10539>       *** WARNING: Outflow volume is less than inflow volume.
10540>  001:0122 ROUTE RESERVOIR
10541>       *** WARNING: Outflow volume is less than inflow volume.
10542>  001:0186 ROUTE RESERVOIR
10543>       *** WARNING: Outflow volume is less than inflow volume.
10544>  001:0250 ROUTE RESERVOIR
10545>       *** WARNING: Outflow volume is less than inflow volume.
10546>  001:0314 ROUTE RESERVOIR
10547>       *** WARNING: Outflow volume is less than inflow volume.
10548>  001:0378 ROUTE RESERVOIR
10549>       *** WARNING: Outflow volume is less than inflow volume.
10550>  001:0442 ROUTE RESERVOIR
10551>       *** WARNING: Outflow volume is less than inflow volume.
10552>    Simulation ended on 2023-11-29     at 10:49:14
10553> ==============================================================================
10554>
10555>
```

APPENDIX C

INTERIM DEVELOPMENT CONDITION SWMF DESIGN CALCULATIONS

SWMHYMO Parameters - Interim Development Conditions

Edgewood Subdivision
Project Number: LD-00135
2024-07-12

Catchment ID	Description	Area (ha)	Hydrologic Soil Group	Pervious CN	Timp (%)	Ximp (%)	I_a Pervious (mm)	I_a Impervious (mm)
201	The rear yards of the Edgewood Phase 2 subdivision single family lots and North woodlot (uncontrolled)	6.96	A	39	6	0	5	2
202	The central portion of the Edgewood subdivision Phase 1 & 2. Mixed lot sizes for single-family residential (controlled)	9.66	A	39	40	30	5	2
203	The Edgewood SWM Block and the rear yards of residential lots (controlled)	1.29	A	39	68	62	3.5	2
204	Agricultural field and a portion of north woodlot (uncontrolled)	2.04	A	55	0	0	8	2
205	Agricultural field, a the central woodlot and the rear yards of residential lots (uncontrolled)	11.96	A	44	4	0	8	2
206	Agricultural field and the West Tributary (uncontrolled)	7.98	A	62	0	0	8	2
207	The east portion of the Parkhouse Drive re-construction (controlled)	0.44	A	39	35	25	5	2
208	The east central portion of the Parkhouse Drive re-construction (controlled)	0.93	A	39	35	25	5	2
209	The west central portion of the Parkhouse Drive re-construction (controlled)	0.51	A	39	61	55	5	2
210	The east portion of the Parkhouse Drive re-construction (controlled)	0.39	A	39	90	90	5	2
107	Southern Rougham Road ROW.	0.54	A	83	75	1	5	2
108	Central Rougham Road ROW.	0.61	A	83	75	1	5	2
109	Northern Rougham Road ROW.	0.17	A	83	75	1	5	2

Interim Development Condition
SWMF Water Quality Volume Requirement

Edgewood Subdivision
Project Number: LD-00135
2024-07-17

Table 3.2 Water Quality Storage Requirements Base On Receiving Waters (from MOE Stormwater Management Planning and Design Manual, March 2003)					
Protection Level	**SWMP Level**	**Storage Volume (m³/ha) for Impervious Level**			
		35%	**55%**	**70%**	**85%**
Enhanced - 80% long-term S.S. Removal	Wetlands	80	105	120	140
	Hybrid Wet Pond/Wetland	110	150	175	195
	Wet Pond	140	190	225	250
Normal - 70% long-term S.S. Removal	Wetlands	60	70	80	9
	Hybrid Wet Pond/Wetland	75	90	105	120
	Wet Pond	90	110	130	150
Basic - 60% long-term S.S. Removal	Wetlands	60	60	60	60
	Hybrid Wet Pond/Wetland	60	70	75	80
	Wet Pond	60	75	85	95
	Dry Pond (Continuous Flow)	90	150	200	240

Level of Water Quality Control

Enhanced 80% Long-Term S.S. Removal

Type of Facility

Wet Pond

Catchment Area (ha)

12.31

Imperviousness (%)

42%

Interpolated Storage Volume Requirement (m³/ha)

159

Permanent Pool Required (m³)

1459

Extended Detention Volume Required (m³)

492

Interim Development Condition
SWMF Stage-Storage Information

Edgewood Subdivision
Project Number: LD-00135
2024-07-16

Stage (m)	Depth (m)	Active Depth (m)	Forebay (Permanent Pool)			Main Pond			Total Pond Volume (m³)	Active Storage Volume (m³)	Volume Summary (m³)	Comments	Stage (m)
			Area (m²)	Volume (m³)	Cumulative Volume (m³)	Area (m²)	Volume (m³)	Cumulative Volume (m³)					
241.30	0.00		0	0	0	1115	0	0	0			**Bottom of Wet Cell**	241.30
241.40	0.10		0	0	0	1167	114	114	114				241.40
241.50	0.20		0	0	0	1219	119	233	233				241.50
241.60	0.30		0	0	0	1272	125	358	358				241.60
241.70	0.40		215	11	11	1325	130	488	499			**Bottom of Forebay**	241.70
241.80	0.50		239	23	33	1379	135	623	656				241.80
241.90	0.60		263	25	59	1433	141	764	822				241.90
242.00	0.70		288	28	86	1488	146	910	996				242.00
242.10	0.80		314	30	116	1544	152	1061	1177				242.10
242.20	0.90		340	33	149	1600	157	1218	1367				242.20
242.30	1.00		385	36	185	1692	165	1383	1568				242.30
242.40	1.10		428	41	226	1786	174	1557	1783				242.40
242.50	1.20		473	45	271	1881	183	1740	2011				242.50
242.60	1.30		521	50	321	1977	193	1933	2254				242.60
242.70	1.40				321	2706	234	2167	2488				242.70
242.80	1.50	0.00			321	2849	278	2445	2766	0		**Permanent Pool (Orifice Invert)**	242.80
242.90	1.60	0.10				2994	292	2737	3058	292			242.90
243.00	1.70	0.20				3142	307	3044	3365	599			243.00
243.10	1.80	0.30				3292	322	3366	3687	921		**25 mm**	243.10
243.20	1.90	0.40				3443	337	3703	4024	1257			243.20
243.30	2.00	0.50				3597	352	4055	4376	1609			243.30
243.40	2.10	0.60				3746	367	4422	4743	1977		**Emergency Overflow Weir, 5-year, 10-year**	243.40
243.50	2.20	0.70				3829	379	4800	5121	2355		**25-year**	243.50
243.60	2.30	0.80				3917	387	5188	5509	2743		**50-year, 100-year**	243.60
243.70	2.40	0.90				4005	396	5584	5905	3139		**250-year**	243.70
243.80	2.50	1.00				4099	405	5989	6310	3544			243.80
243.90	2.60	1.10				4192	415	6404	6725	3958			243.90
244.00	2.70	1.20				4284	424	6827	7148	4382			244.00
244.10	2.80	1.30				4378	433	7260	7581	4815			244.10
244.20	2.90	1.40				4473	443	7703	8024	5258		**Top of Pond**	244.20

Interim Development Condition
SWMF Stage-Storage-Discharge Information

Edgewood Subdivision
Project Number: LD-00135
2024-07-16

Orifice Calculation			
$Q_O = C_d A\sqrt{2gH_O}$			
	Orifice 1	**Orifice 2**	**Orifice 3**
C_d	0.63	-	-
Invert (m)	242.80	-	-
Diameter/Height (m)	0.125	-	-
Area(m²)	0.012	-	-

Weir Calculation	
$Q_W = C_w L {H_w}^{1.5} + 2(\frac{2}{5} C_w Z {H_w}^{2.5})$	
C_w	1.83
Invert (m)	243.40
Length (m)	1.25
Side Slope (Z:1)	4

CSP Hole Schedule

Number of holes per role = 40
Hole Diameter = 50mm
Invert Elevation of First Row of Holes = 242.80 m
Distance between Rows (invert to invert) = 100mm
Rows to extended to top of CSP (243.35) = 5 rows

Row	#Holes	Hole Diameter	Hole invert
1	40	50	242.80
2	40	50	242.90
3	40	50	243.00
4	40	50	243.10
5	40	50	243.20

Stage	**Orifice**		**Weir**		**Total Flow** (m³/s)	**Active Volume** (m³)
	H_o (m)	**Flow** (m³/s)	**H_o** (m)	**Flow** (m³/s)		
242.80	0.00	0.000	0.00	0.000	0.000	0
242.90	0.10	0.011	0.00	0.000	0.011	292
243.00	0.20	0.015	0.00	0.000	0.015	599
243.10	0.30	0.019	0.00	0.000	0.019	921
243.20	0.40	0.022	0.00	0.000	0.022	1257
243.30	0.50	0.024	0.00	0.000	0.024	1609
243.40	0.60	0.027	0.00	0.000	0.027	1977
243.50	0.70	0.029	0.10	0.091	0.120	2355
243.60	0.80	0.031	0.20	0.309	0.340	2743
243.70	0.90	0.032	0.30	0.665	0.697	3139
243.80	1.00	0.034	0.40	1.171	1.206	3544
243.90	1.10	0.036	0.50	1.844	1.880	3958
244.00	1.20	0.038	0.60	2.696	2.734	4382
244.10	1.30	0.039	0.70	3.740	3.779	4815
244.20	1.40	0.041	0.80	4.989	5.029	5258

Interim Development Condition
SWMF Drawdown Information

Edgewood Subdivision
Project Number: LD-00135
2024-07-16

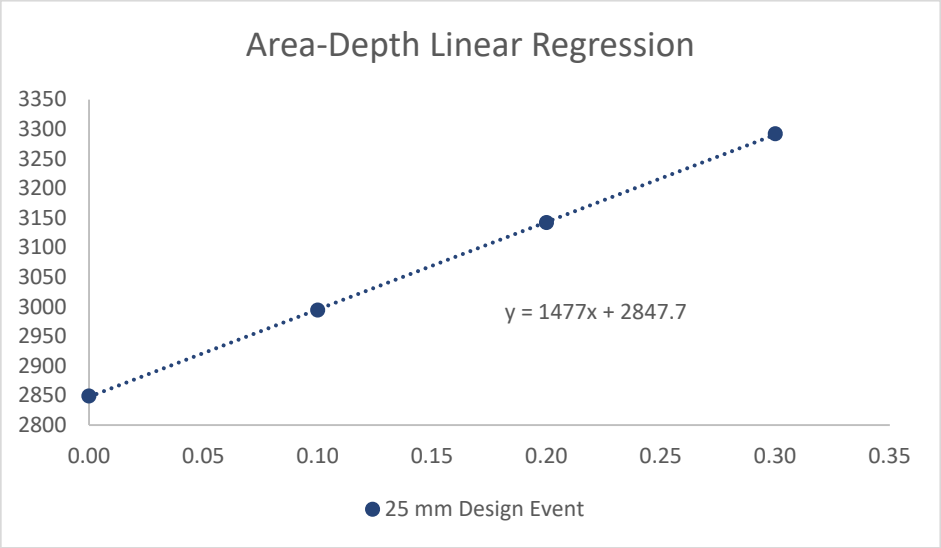
Drawdown time estimate in pond using the falling head orifice equation (SWM Manual, MOE 2003),

$$t = \frac{0.66C_2h^{1.5} + 2C_3h^{0.5}}{2.75A_o}$$

where,

Parameter	Value	Unit	Description
t	97183 27	s hr	Drawdown Time
d	125	mm	Diameter of Orifice
A_0	0.01	m²	Cross-Sectional Area of the Orifice
h_1	243.1	m	Starting Elevation Above the Orifice
h_2	242.8	m	Ending Water Elevation Above the Orifice
h	0	m	Maximum Water Elevation Above the Orifice
C_2	1477	-	Slope Coefficient from the Area-Depth Linear Regression
C_3	2848	-	Intercept from the Area-Depth Linear Regression

Elevation (m)	Depth (m)	Surface Area (m²)	Comment
242.80	0.00	2849	Permanent Pool
242.90	0.10	2994	
243.00	0.20	3142	Extended Detention
243.10	0.30	3292	25 mm Design Event



Interim Development Condition
SWMF Forebay Sizing Calculations

Edgewood Subdivision
Project Number: LD-00135
2024-07-16

Inlet Pipe Capacity into Forebay	1.744	m³/s	(from Storm Sewer Design Sheet)
Peak Flow from Main Pond Outlet for the 25 mm Design Storm Event	0.017	m³/s	(from SWMHYMO)

1. Length Calculation Based on Settling Velocity

L = Forebay Length (m)
r = Length-to-Width Ratio of Forebay
Q_p = Peak Flow Rate from Pond during Design Quality Storm (m³/s)
V_s = Settling Velocity (m/s)

$$Dist = \sqrt{\frac{rQ_P}{V_s}}$$

Required settling length (Assuming Q = pond discharge & v = 0.0003 m/s)

Q_p =	0.017	m³/s
V_s =	0.0003	Settling Velocity (m/s)
r =	2.2	:1 Length-to-Width Ratio
L =	11.2	Required Settling Length (m)

2. Length Calculation Based on Flow Dispersion Length from Inlet Pipe Invert to Forebay Berm

Q =	1.744	Inlet Pipe Capacity Flowrate (m³/s)
d =	1.06	Depth of Permanent Pool (m)
V_f =	0.5	Desired Velocity in Forebay (m/s)
L =	26.3 m	

$$Dist = \frac{8Q}{dV_f}$$

40.0 m — Provided.

3. Minimum Forebay Bottom Width

Dist =	40.0 m
Width =	5.0 m

$$Width = \frac{Dist}{8}$$

6.8 m — Provided.

4. Scour Velocity

Q =	1.74	Inlet Pipe Capacity Flowrate (m³/s)
b =	33.5	Bottom Length of Forebay (m)
x =	4.1	Side Slope (x:1)
y =	1.06	Total Depth of Forebay from Perm. Pool (m)
A =	40.12	Cross Sectional Area (m²)
v =	0.04	Target Velocity is ≤ 0.15 m/s

$$V = \frac{Q}{A}$$

Therefore, velocity target is satisfied.

5. Surface Area Volume Check

SA_f	=	617	Forebay Surface Area (m²)
SA_{pp}	=	2849	Total Permanent Pool Surface Area (m²)
$\frac{SA_f}{SA_{pp}}$	=	22 %	

Note: Surface Areas measured in Civil 3D software.

Target = 33%. Therefore, surface area target is satisfied.

6. Estimated Cleanout Frequencies

Sediment Accumulation will typically be rapid for the entire construction period (including time required for the building, sodding and landscaping of individual lots). Once the catchment area is wholly developed and vegetation is established, sediment accumulation drops markedly. Using Figure 6.2: Storage Volume vs. Removal Frequency - for 55% Impervious Catchment (MOE SWM Manual, 2003), a sediment removal frequency of 30 years is determined adequate.

APPENDIX D

ULTIMATE DEVELOPMENT CONDITION SWMF DESIGN CALCULATIONS

SWMHYMO Parameters - Ultimate Development Conditions

Edgewood Subdivision
Project Number: LD-00135
2024-07-12

Catchment ID	Description	Area (ha)	Hydrologic Soil Group	Pervious CN	Timp (%)	Ximp (%)	I_a Pervious (mm)	I_a Impervious (mm)
301	The rear yards of the Edgewood Phase 2 single-family lots, future development and north woodlot (uncontrolled).	7.88	A	39	5	0	8	2
302	The central portion of the Edgewood subdivision Phase 1 & 2. Southern Potion of the future development (controlled).	12.17	A	39	41	31	5	2
303	The north portion of the future development (controlled).	4.00	A	39	40	30	5	2
304	The central woodlot and the rear yards of residential lots from the Edgewood Phase 2 and future development (uncontrolled).	9.83	A	34	6	0	8	2
305	The south western portion of the future development.	2.61	A	39	76	57	5.00	2
306	The West Tributary and future development.	1.74	A	36	8	0	8	2
307	Southern Rougham Road ROW.	0.27	A	39	90	0	5	2
308	Central Rougham Road ROW.	0.27	A	39	90	90	5	2
309	Northern Rougham Road ROW.	1.14	A	39	62	57	5	2

Ultimate Development Condition
SWMF Water Quality Volume Requirement

Edgewood Subdivision
Project Number: LD-00135
2024-07-16

Table 3.2 Water Quality Storage Requirements Base On Receiving Waters (from MOE Stormwater Management Planning and Design Manual, March 2003)					
Protection Level	**SWMP Level**	**Storage Volume (m³/ha) for Impervious Level**			
		35%	**55%**	**70%**	**85%**
Enhanced - 80% long-term S.S. Removal	Wetlands	80	105	120	140
	Hybrid Wet Pond/Wetland	110	150	175	195
	Wet Pond	140	190	225	250
Normal - 70% long-term S.S. Removal	Wetlands	60	70	80	9
	Hybrid Wet Pond/Wetland	75	90	105	120
	Wet Pond	90	110	130	150
Basic - 60% long-term S.S. Removal	Wetlands	60	60	60	60
	Hybrid Wet Pond/Wetland	60	70	75	80
	Wet Pond	60	75	85	95
	Dry Pond (Continuous Flow)	90	150	200	240

Level of Water Quality Control

Enhanced 80% Long-Term S.S. Removal

Type of Facility

Wet Pond

Catchment Area (ha)

20.49

Imperviousness (%)

44%

Interpolated Storage Volume Requirement (m³/ha)

163

Permanent Pool Required (m³)

2529

Extended Detention Volume Required (m³)

820

Ultimate Development Condition
SWMF Stage-Storage Information

Stage (m)	Depth (m)	Active Depth (m)	Forebay (Permanent Pool)			Main Pond			Total Pond Volume (m³)	Active Storage Volume (m³)	Volume Summary (m³)	Comments	Stage (m)
			Area (m²)	Volume (m³)	Cumulative Volume (m³)	Area (m²)	Volume (m³)	Cumulative Volume (m³)					
241.30	0.00		0	0	0	1115	0	0	0			**Bottom of Wet Cell**	241.30
241.40	0.10		0	0	0	1167	114	114	114				241.40
241.50	0.20		0	0	0	1219	119	233	233				241.50
241.60	0.30		0	0	0	1272	125	358	358				241.60
241.70	0.40		215	11	11	1325	130	488	499			**Bottom of Forebay**	241.70
241.80	0.50		239	23	33	1379	135	623	656				241.80
241.90	0.60		263	25	59	1433	141	764	822				241.90
242.00	0.70		288	28	86	1488	146	910	996				242.00
242.10	0.80		314	30	116	1544	152	1061	1177				242.10
242.20	0.90		340	33	149	1600	157	1218	1367				242.20
242.30	1.00		385	36	185	1692	165	1383	1568				242.30
242.40	1.10		428	41	226	1786	174	1557	1783				242.40
242.50	1.20		473	45	271	1881	183	1740	2011				242.50
242.60	1.30		521	50	321	1977	193	1933	2254				242.60
242.70	1.40			0	321	2706	234	2167	2488				242.70
242.80	1.50	0.00		0	321	2849	278	2445	2766	0		**Permanent Pool (Orifice Invert)**	242.80
242.90	1.60	0.10				2994	292	2737	3058	292			242.90
243.00	1.70	0.20				3142	307	3044	3365	599			243.00
243.10	1.80	0.30				3292	322	3366	3686	921			243.10
243.20	1.90	0.40				3443	337	3703	4023	1257			243.20
243.30	2.00	0.50				3597	352	4055	4375	1609		**25 mm**	243.30
243.40	2.10	0.60				3746	367	4422	4742	1977		**Overflow Weir**	243.40
243.50	2.20	0.70				3829	379	4800	5121	2355		**5-year**	243.50
243.60	2.30	0.80				3917	387	5188	5508	2743		**10-year**	243.60
243.70	2.40	0.90				4005	396	5584	5904	3139		**25-year**	243.70
243.80	2.50	1.00				4099	405	5989	6310	3544		**50-year, 100-year**	243.80
243.90	2.60	1.10				4192	415	6404	6724	3958		**250-year**	243.90
244.00	2.70	1.20				4284	424	6827	7148	4382			244.00
244.10	2.80	1.30				4378	433	7260	7581	4815			244.10
244.20	2.90	1.40				4473	443	7703	8024	5258		**Top of Pond**	244.20

Ultimate Development Condition
SWMF Stage-Storage-Discharge Information

Edgewood Subdivision
Project Number: LD-00135
2024-07-16

Orifice Calculation			
$Q_O = C_d A\sqrt{2gH_O}$			
	Orifice 1	**Orifice 2**	**Orifice 3**
C_d	0.63	-	-
Invert (m)	242.80	-	-
Diameter/Height (m)	0.125	-	-
Area(m²)	0.012	-	-

Weir Calculation	
$Q_W = C_w L {H_w}^{1.5} + 2(\frac{2}{5} C_w Z {H_w}^{2.5})$	
C_w	1.83
Invert (m)	243.40
Length (m)	1.25
Side Slope (Z:1)	4

CSP Hole Schedule
Number of holes per role = 40
Hole Diameter = 50mm
Invert Elevation of First Row of Holes = 242.80 m
Distance between Rows (invert to invert) = 100mm
Rows to extended to top of CSP (243.35) = 5 rows

Row	#Holes	Hole Diameter	Hole invert
1	40	50	242.80
2	40	50	242.90
3	40	50	243.00
4	40	50	243.10
5	40	50	243.20

Stage	**Orifice**		**Weir**		**Total Flow** (m³/s)	**Active Volume** (m³)
	H$_o$ (m)	**Flow** (m³/s)	**H$_o$** (m)	**Flow** (m³/s)		
242.80	0.00	0.000	0.00	0.000	0.000	0
242.90	0.10	0.011	0.00	0.000	0.011	292
243.00	0.20	0.015	0.00	0.000	0.015	599
243.10	0.30	0.019	0.00	0.000	0.019	921
243.20	0.40	0.022	0.00	0.000	0.022	1257
243.30	0.50	0.024	0.00	0.000	0.024	1609
243.40	0.60	0.027	0.00	0.000	0.027	1977
243.50	0.70	0.029	0.10	0.091	0.120	2355
243.60	0.80	0.031	0.20	0.309	0.340	2743
243.70	0.90	0.032	0.30	0.665	0.697	3139
243.80	1.00	0.034	0.40	1.171	1.206	3544
243.90	1.10	0.036	0.50	1.844	1.880	3958
244.00	1.20	0.038	0.60	2.696	2.734	4382
244.10	1.30	0.039	0.70	3.740	3.779	4815
244.20	1.40	0.041	0.80	4.989	5.029	5258

Ultimate Development Condition
SWMF Drawdown Information

Edgewood Subdivision
Project Number: LD-00135
2024-07-16

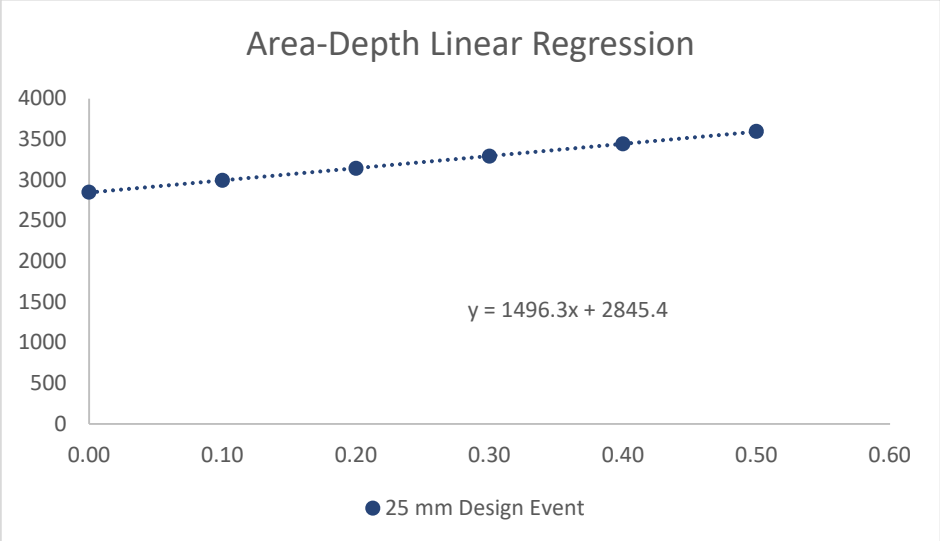
Drawdown time estimate in pond using the falling head orifice equation (SWM Manual, MOE 2003),

$$t = \frac{0.66C_2h^{1.5} + 2C_3h^{0.5}}{2.75A_o}$$

where,

Parameter	Value	Unit	Description
t	129584 36	s hr	Drawdown Time
d	125	mm	Diameter of Orifice
A_0	0	m²	Cross-Sectional Area of the Orifice
h_1	243	m	Starting Elevation Above the Orifice
h_2	243	m	Ending Water Elevation Above the Orifice
h	0	m	Maximum Water Elevation Above the Orifice
C_2	1496	-	Slope Coefficient from the Area-Depth Linear Regression
C_3	2845	-	Intercept from the Area-Depth Linear Regression

Elevation (m)	Depth (m)	Surface Area (m²)	Comment
242.80	0.00	2849	Permanent Pool Level
242.90	0.10	2994	
243.00	0.20	3142	
243.10	0.30	3292	Extended Detention
243.20	0.40	3443	
243.30	0.50	3597	25 mm Design Event



LDS

Ultimate Development Condition
SWMF Forebay Sizing Calculations

Edgewood Subdivision
Project Number: LD-00135
2024-07-16

Inlet Pipe Capacity into Forebay	1.744	m³/s	(from Storm Sewer Design Sheet)
Peak Flow from Main Pond Outlet for the 25 mm Design Storm Event	0.023	m³/s	(from SWMHYMO)

1. Length Calculation Based on Settling Velocity

L = Forebay Length (m)
r = Length-to-Width Ratio of Forebay
Q_p = Peak Flow Rate from Pond during Design Quality Storm (m³/s)
V_s = Settling Velocity (m/s)

$$Dist = \sqrt{\frac{rQ_P}{V_s}}$$

Required settling length (Assuming Q = pond discharge & v = 0.0003 m/s)

Q_p =	0.023	m³/s
V_s =	0.0003	Settling Velocity (m/s)
r =	2.2	:1 Length-to-Width Ratio
L =	13.0	Required Settling Length (m)

2. Length Calculation Based on Flow Dispersion Length from Inlet Pipe Invert to Forebay Berm

Q =	1.744	Inlet Pipe Capacity Flowrate (m³/s)		
d =	1.06	Depth of Permanent Pool (m)		
V_f =	0.5	Desired Velocity in Forebay (m/s)		
L =	26.3 m	40.0 m		Provided.

$$Dist = \frac{8Q}{dV_f}$$

3. Minimum Forebay Bottom Width

Dist =	40.0 m		
Width =	5.0 m	6.8 m	Provided.

$$Width = \frac{Dist}{8}$$

4. Scour Velocity

Q =	1.74	Inlet Pipe Capacity Flowrate (m³/s)
b =	33.5	Bottom Length of Forebay (m)
x =	4.1	Side Slope (x:1)
y =	1.06	Total Depth of Forebay from Perm. Pool (m)
A =	40.12	Cross Sectional Area (m²)
v =	0.04	Target Velocity is ≤ 0.15 m/s

$$V = \frac{Q}{A}$$

Therefore, velocity target is satisfied.

5. Surface Area Volume Check

SA_f	=	617	Forebay Surface Area (m²)
SA_{pp}	=	2849	Total Permanent Pool Surface Area (m²)
$\frac{SA_f}{SA_{pp}}$	=	22 %	

Note: Surface Areas measured in Civil 3D software.

Target = 33%. Therefore, surface area target is satisfied.

6. Estimated Cleanout Frequencies

Sediment Accumulation will typically be rapid for the entire construction period (including time required for the building, sodding and landscaping of individual lots). Once the catchment area is wholly developed and vegetation is established, sediment accumulation drops markedly. Using Figure 6.2: Storage Volume vs. Removal Frequency - for 55% Impervious Catchment (MOE SWM Manual, 2003), a sediment removal frequency of 30 years is determined adequate.

Hydraulic Grade Line Analysis

Edgewood Subdivision
Project Number: LD-00135
2024-07-17

Maintenance Hole			Diameter	Length	Slope	Manning's n	Flow	Flow Area	Normal Depth	Hydraulic Radius	Friction Head	INVERT		Pipe HGL	
PIPE ID	U/S	D/S	mm	m	%	-	cms	m²	m	m	m	U/S	D/S	U/S	D/S
1	R31	HDWL1	1200	9.7	0.20	0.013	1.683	0.96	0.95	0.36	0.02	241.759	241.740	242.73	242.69
2	R30	R31	900	31.4	0.21	0.013	0.788	0.53	0.70	0.27	0.07	241.925	241.859	242.69	242.56
3	R29	R30	900	16.5	0.15	0.013	0.685	0.55	0.72	0.27	0.02	242.060	242.035	242.81	242.76
4	R28	R29	900	43.0	0.15	0.013	0.694	0.55	0.73	0.27	0.07	242.155	242.090	242.95	242.82
5	R27	R30	450	65.5	0.80	0.013	0.181	0.10	0.28	0.13	0.57	242.534	242.010	243.38	242.29
6	R26	R27	375	73.7	0.90	0.013	0.100	0.06	0.21	0.10	0.76	243.802	243.138	244.76	243.34
7	R25	R26	300	18.5	0.60	0.013	0.063	0.05	0.21	0.09	0.12	244.513	244.402	244.85	244.61
8	R24	R25	300	55.8	0.60	0.013	0.042	0.04	0.16	0.08	0.31	245.348	245.013	245.82	245.17
9	R23	R31	900	59.8	0.3	0.013	0.927	0.52	0.69	0.27	0.18	241.939	241.759	242.81	242.45
10	R20	R23	600	67.4	0.60	0.013	0.465	0.24	0.48	0.18	0.41	242.584	242.180	243.48	242.66
11	R19	R20	525	60.8	1.00	0.013	0.420	0.19	0.42	0.16	0.58	243.942	243.334	244.94	243.75
12	R18	R19	525	94.8	0.90	0.013	0.389	0.18	0.41	0.16	0.87	245.195	244.342	246.47	244.75
13	R17	R23	675	93.5	0.23	0.013	0.379	0.30	0.52	0.20	0.21	242.154	241.939	242.88	242.46
14	R16	R17	525	42.3	0.25	0.013	0.175	0.16	0.36	0.15	0.10	243.210	243.104	243.67	243.46
15	R27 (B.O.)	R16	450	80	0.25	0.013	0.131	0.13	0.34	0.14	0.19	243.343	243.285	243.87	243.62
16	R15	R17	450	39.1	0.70	0.013	0.219	0.13	0.34	0.14	0.27	242.675	242.401	243.29	242.75
17	R14	R15	450	36.4	0.60	0.013	0.189	0.12	0.32	0.13	0.22	242.943	242.725	243.49	243.05
18	R13	R14	375	72.1	1.6	0.013	0.154	0.07	0.23	0.11	1.17	244.218	243.065	245.63	243.30
19	R12	R13	300	58.6	1.60	0.013	0.096	0.05	0.20	0.09	0.93	245.231	244.293	246.37	244.50
20	R11	R12	300	38.4	2	0.013	0.027	0.02	0.09	0.05	0.58	246.029	245.261	246.70	245.36
21	R22	R23	450	27.7	0.25	0.013	0.135	0.13	0.35	0.14	0.07	242.690	242.621	243.11	242.97
22	R21	R22	450	38.9	0.25	0.013	0.122	0.12	0.32	0.13	0.10	242.787	242.690	243.20	243.01
23	R29 (B.O.)	R21	375	57.6	0.35	0.013	0.109	0.10	0.33	0.11	0.22	242.791	242.787	243.35	243.12

Governing HGL based on Permanent Pool Level	
Manhole	HGL (m)
HDWL1	242.8
R31	242.82
R30	242.89
R29	242.91
R28	242.97
R27	243.46
R26	244.21
R25	244.34
R24	244.65
R23	243.00
R20	243.41
R19	243.99
R18	244.86
R17	243.21
R16	243.31
R27 (B.O.)	243.50
R15	243.48
R14	243.70
R13	244.88
R12	245.81
R11	246.39
R22	243.07
R21	243.17
R29 (B.O.)	243.39

1650 mm Inlet Pipe

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.010	
Channel Slope	0.00100	m/m
Diameter	1.65	m
Discharge	2.44	m³/s

Results

Normal Depth	0.97	m
Flow Area	1.31	m²
Wetted Perimeter	2.89	m
Hydraulic Radius	0.45	m
Top Width	1.62	m
Critical Depth	0.78	m
Percent Full	58.8	%
Critical Slope	0.00203	m/m
Velocity	1.87	m/s
Velocity Head	0.18	m
Specific Energy	1.15	m
Froude Number	0.66	
Maximum Discharge	4.03	m³/s
Discharge Full	3.75	m³/s
Slope Full	0.00043	m/m
Flow Type	SubCritical	

GVF Input Data

Downstream Depth	0.00	m
Length	0.00	m
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	m
Profile Description		
Profile Headloss	0.00	m
Average End Depth Over Rise	0.00	%
Normal Depth Over Rise	58.84	%
Downstream Velocity	Infinity	m/s

1650 mm Inlet Pipe

GVF Output Data

Upstream Velocity	Infinity	m/s
Normal Depth	0.97	m
Critical Depth	0.78	m
Channel Slope	0.00100	m/m
Critical Slope	0.00203	m/m

Rougham Road Ditch

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.025	
Channel Slope	0.02000	m/m
Left Side Slope	3.00	m/m (H:V)
Right Side Slope	3.00	m/m (H:V)
Discharge	0.6500	m³/s

Results

Normal Depth	0.35	m
Flow Area	0.38	m²
Wetted Perimeter	2.24	m
Hydraulic Radius	0.17	m
Top Width	2.13	m
Critical Depth	0.39	m
Critical Slope	0.01129	m/m
Velocity	1.72	m/s
Velocity Head	0.15	m
Specific Energy	0.51	m
Froude Number	1.31	
Flow Type	Supercritical	

GVF Input Data

Downstream Depth	0.00	m
Length	0.00	m
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	m
Profile Description		
Profile Headloss	0.00	m
Downstream Velocity	Infinity	m/s
Upstream Velocity	Infinity	m/s
Normal Depth	0.35	m
Critical Depth	0.39	m
Channel Slope	0.02000	m/m
Critical Slope	0.01129	m/m

Street A West Swale

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.025	
Channel Slope	0.02000	m/m
Left Side Slope	4.00	m/m (H:V)
Right Side Slope	4.00	m/m (H:V)
Bottom Width	4.00	m
Discharge	1.4690	m³/s

Results

Normal Depth	0.19	m
Flow Area	0.88	m²
Wetted Perimeter	5.54	m
Hydraulic Radius	0.16	m
Top Width	5.49	m
Critical Depth	0.22	m
Critical Slope	0.01084	m/m
Velocity	1.66	m/s
Velocity Head	0.14	m
Specific Energy	0.33	m
Froude Number	1.32	
Flow Type	Supercritical	

GVF Input Data

Downstream Depth	0.00	m
Length	0.00	m
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	m
Profile Description		
Profile Headloss	0.00	m
Downstream Velocity	Infinity	m/s
Upstream Velocity	Infinity	m/s
Normal Depth	0.19	m
Critical Depth	0.22	m
Channel Slope	0.02000	m/m

Street A East Swale

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.025	
Channel Slope	0.03000	m/m
Left Side Slope	4.00	m/m (H:V)
Right Side Slope	4.00	m/m (H:V)
Bottom Width	3.00	m
Discharge	0.3210	m³/s

Results

Normal Depth	0.08	m
Flow Area	0.27	m²
Wetted Perimeter	3.66	m
Hydraulic Radius	0.07	m
Top Width	3.64	m
Critical Depth	0.10	m
Critical Slope	0.01380	m/m
Velocity	1.21	m/s
Velocity Head	0.07	m
Specific Energy	0.15	m
Froude Number	1.43	
Flow Type	Supercritical	

GVF Input Data

Downstream Depth	0.00	m
Length	0.00	m
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	m
Profile Description		
Profile Headloss	0.00	m
Downstream Velocity	Infinity	m/s
Upstream Velocity	Infinity	m/s
Normal Depth	0.08	m
Critical Depth	0.10	m
Channel Slope	0.03000	m/m

Trillium Way Swale

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.018	
Channel Slope	0.05000	m/m
Left Side Slope	4.00	m/m (H:V)
Right Side Slope	4.00	m/m (H:V)
Bottom Width	3.00	m
Discharge	2.0000	m³/s

Results

Normal Depth	0.16	m
Flow Area	0.60	m²
Wetted Perimeter	4.36	m
Hydraulic Radius	0.14	m
Top Width	4.32	m
Critical Depth	0.31	m
Critical Slope	0.00522	m/m
Velocity	3.32	m/s
Velocity Head	0.56	m
Specific Energy	0.73	m
Froude Number	2.84	
Flow Type	Supercritical	

GVF Input Data

Downstream Depth	0.00	m
Length	0.00	m
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	m
Profile Description		
Profile Headloss	0.00	m
Downstream Velocity	Infinity	m/s
Upstream Velocity	Infinity	m/s
Normal Depth	0.16	m
Critical Depth	0.31	m
Channel Slope	0.05000	m/m

Edgewood Lane Swale

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.025	
Channel Slope	0.01800	m/m
Left Side Slope	4.00	m/m (H:V)
Right Side Slope	4.00	m/m (H:V)
Bottom Width	7.00	m
Discharge	0.6000	m³/s

Results

Normal Depth	0.08	m
Flow Area	0.61	m²
Wetted Perimeter	7.68	m
Hydraulic Radius	0.08	m
Top Width	7.66	m
Critical Depth	0.09	m
Critical Slope	0.01399	m/m
Velocity	0.99	m/s
Velocity Head	0.05	m
Specific Energy	0.13	m
Froude Number	1.12	
Flow Type	Supercritical	

GVF Input Data

Downstream Depth	0.00	m
Length	0.00	m
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	m
Profile Description		
Profile Headloss	0.00	m
Downstream Velocity	Infinity	m/s
Upstream Velocity	Infinity	m/s
Normal Depth	0.08	m
Critical Depth	0.09	m
Channel Slope	0.01800	m/m

APPENDIX E

SUPPORTING DOCUMENTS

Lot Grading & Drainage
Homeowners' Information Package

All drainage from your lot makes its way to Mill Creek, which goes to the Thames River and, ultimately, Lake Erie through groundwater, a system of grassed side/rear yard swales, road ditches, catchbasins/catchbasin maintenance holes, storm sewer pipes (stormwater collection system), and open water courses. Engineering on your lot has been designed to retain natural drainage characteristics as much as possible. Some of the measures on your lot are:

- Construction of side and rear yard grassed swales to convey your lot runoff to catchbasin/catchbasin maintenance holes, storm sewer system, the Mill Creek Tributaries, and ultimately Lake Erie. The side/rear yard grassed swales and overland flow swales will provide polishing and pre-treatment of the stormwater (improve stormwater quality).
- In addition, measures such as temporary silt fencing and sediment protection at catch basins/catchbasin maintenance holes are to be undertaken during construction to reduce erosion, sedimentation, and water quality impacts on the receiving systems.

These measures assist in reducing the detrimental impact that the development may otherwise have on stormwater quality and quantity of the receiving system.

What can you do to help?

Providing the above-noted measures alone does not solve water quality issues forever. The measures noted above must be maintained, and each lot's residents must practice preventative measures. The following is a non-inclusive list of homeowner obligations to keep the stormwater management measures functioning correctly:

1. Retain the grades on the property in compliance with the approved lot grading plan issued at the time of your home construction.
2. Prevent the storage of items or construction of a shed in the rear yard in the area of the backyard swales and catchbasins/catchbasin maintenance holes.
3. When building the deck and patios, consider wooden decking instead of harder, impermeable surfaces to minimize the amount of paved surfaces.
4. Prevent oil and fluid spills or leaks from motor vehicles.
5. Avoid pesticide use, particularly before major storm events and/or consider using organic alternatives to pesticides and fertilizers. This will help with water quality issues.
6. Prevent the entry of debris or pollutants of any kind from entering the stormwater collection system.
7. Remove sediment and debris from the rear yard storm swales and (if present in your property) rear yard catchbasin/catchbasin maintenance holes:
8. Remember that your side/rear yard grassed swales are designed to temporarily retain and pond runoff water during and after rainfall events.
9. If there is a rear yard catch basin in your property, care must be exercised while building the foundation of the house to prevent damage to the connection (pipe) between the rear yard catchbasin/catchbasin maintenance hole and the municipal storm sewer system in eh roadway in front of your house. Removal and reinstatement of the storm pipe may be required during excavation to construct the foundation, and temporary stormwater pumping may be required.

Using the above practices and being aware of the purpose of these systems will keep and improve water quality in the Mill Creek Tributaries and, ultimately, Lake Erie.

Telephone Numbers:

Municipality of Strathroy-Caradoc
519-245-1105
https://www.strathroy-caradoc.ca/en/index.aspx

Lower Thames Conservation Authority
519-354-7310
https://www.lowerthames-conservation.on.ca/

ADS OGS Sizing Summary

Project Name: Forest View Subdivision

Consulting Engineer: LDS Consultants

Location: Mount Brydges, ON

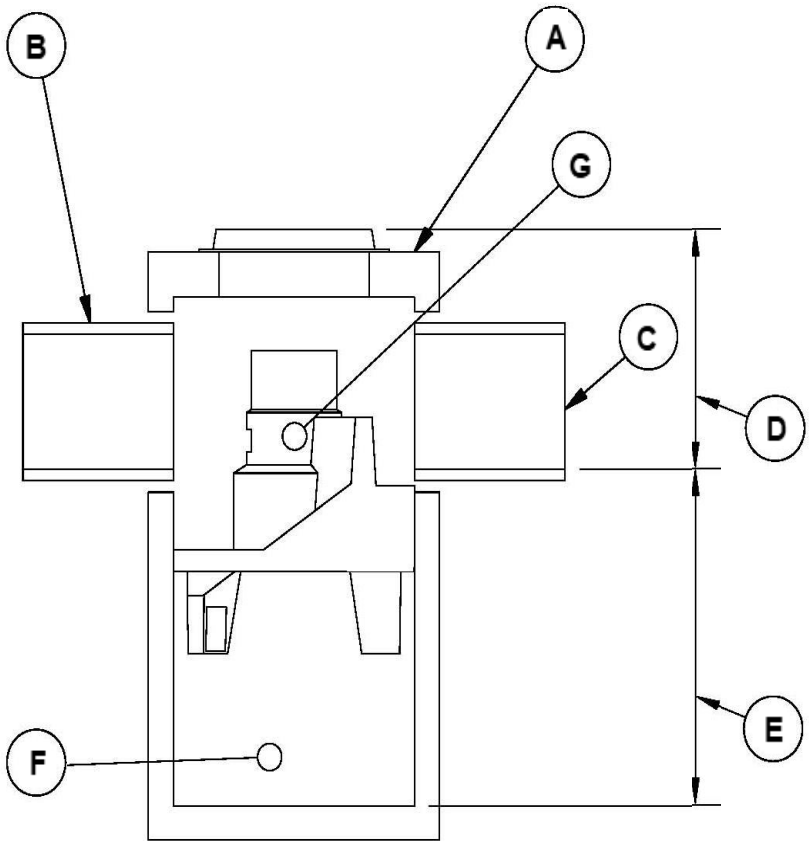
Sizing Completed By: C. Neath **Email:** cody.neath@ads-pipe.com

Treatment Requirements		
Treatment Goal:	Enhanced (MOE)	
Selected Parameters:	80% TSS	90% Volume
Selected Unit:	**FD-6HC**	

Site Details	
Site Area:	3.78 ha
% Impervious:	76%
Rational C:	0.74
Rainfall Station:	London Intl Airport, ON
Particle Size Distribution:	Fine
Peak Flowrate:	---

Summary of Results		
Model	**TSS Removal**	**Volume Treated**
FD-4HC	68.0%	>90%
FD-5HC	77.0%	>90%
FD-6HC	82.0%	>90%
FD-8HC	87.0%	>90%
FD-10HC	91.0%	>90%

FD-6HC Specification	
Unit Diameter (A):	1,800 mm
Inlet Pipe Diameter (B):	600 mm
Outlet Pipe Diameter (C):	600 mm
Height, T/G to Outlet Invert (D):	2000 mm
Height, Outlet Invert to Sump (E):	1800 mm
Sediment Storage Capacity (F):	1.96 m³
Oil Storage Capacity (G):	1,878 L
Recommended Sediment Depth for Maintenance:	470 mm
Max. Pipe Diameter:	750 mm
Peak Flow Capacity:	906 L/s



Site Elevations:	
Rim Elevation:	100.00
Inlet Pipe Elevation:	98.00
Outlet Pipe Elevation:	98.00

Notes:

Removal efficiencies are based on NJDEP Test Protocols and independently verified.

All units supplied by ADS have numerous local, provincial, and international certifications (copies of which can be provided upon request). The design engineer is responsible for ensuring compliance with applicable regulations.

Project Name:	Forest View Subdivision
Consulting Engineer:	LDS Consultants
Location:	Mount Brydges, ON

Net Annual Removal Efficiency Summary: FD-6HC

Rainfall Intensity[1]	Fraction of Rainfall[1]	FD-6HC Removal Efficiency[2]	Weighted Net-Annual Removal Efficiency
mm/hr	%	%	%
0.50	0.2%	98.8%	0.2%
1.00	13.7%	92.7%	12.7%
1.50	17.3%	89.2%	15.5%
2.00	13.5%	86.9%	11.8%
2.50	2.7%	85.1%	2.3%
3.00	2.3%	83.7%	1.9%
3.50	8.5%	82.5%	7.0%
4.00	4.7%	81.5%	3.8%
4.50	1.5%	80.6%	1.2%
5.00	5.2%	79.8%	4.1%
6.00	4.1%	78.5%	3.2%
7.00	4.4%	77.3%	3.4%
8.00	3.3%	76.4%	2.5%
9.00	2.4%	75.5%	1.8%
10.00	2.3%	74.8%	1.7%
20.00	9.2%	70.1%	6.4%
30.00	2.5%	67.5%	1.7%
40.00	1.1%	65.8%	0.7%
50.00	0.4%	0.0%	0.0%
100.00	0.6%	0.0%	0.0%
150.00	0.1%	0.0%	0.0%
200.00	0.0%	0.0%	0.0%
		Total Net Annual Removal Efficiency:	82.0%
		Total Runoff Volume Treated:	>90%

Notes:

(1) Rainfall Data: 1960:2002, HLY03, London AP, ONT, 6144475.

(2) Based on third party verified data and appoximating the removal of a PSD similar to the STC Fine distribution

(3) Rainfall adjusted to 5 min peak intensity based on hourly average.

Luke Jesson

From: Anthony Gubbels
Sent: August 23, 2023 6:12 PM
To: Luke Jesson
Subject: SC's response to Municipal Drain Oversizing / SWM Pond Capacity

Importance: High

Luke,

In regards to the above referenced matter, please see Mr. Tranquilli's response dated September 7, 2022 (emphasis added) to Westdell regarding municipal drain flows and SWM pond oversizing.

Please include this as background information in the updated SWM report.

Anthony H. Gubbels, P.Eng.
Principal, Urban Land

LDS CONSULTANTS INC.
2323 Trafalgar Street, London ON N5V 0E1
Email: anthony.gubbels @LDSconsultants.ca
Office Phone: 226-289-2952 x101
Cell Phone: 519-494-7785

---------- Forwarded message ---------
From: **Fred Tranquilli** <ftranquilli@strathroy-caradoc.ca>
Date: Wed, Sep 7, 2022 at 4:58 PM
Subject: Response
To: Iyman Meddoui <imeddoui@westdellcorp.com>

Iyman,

The issues raised by Anthony have been the subject of many previous communications including correspondence between our respective lawyers. Our position on oversizing related to the decommissioning of the municipal drain and the storm water pond was clearly outlined in our letter to Westdell's lawyer on June 22. Our position then, and now, is that we have no information that oversizing has been provided for and it was not requested.

In regards to the cost sharing for Parkhouse – LDS presented us with a cost sharing schedule in 2021 that identifies financial contributions from both Westdell and Sifton. Further, Condition 16 of Westdell's draft plan approval notes the need for a financial contribution for the Parkhouse project in accordance with the 2018 Mt. Brydges Area Specific DC Charge. We recognize that most of the project is DC eligible and the Municipality is prepared for pay for these costs through funds already set aside in the 2021 and 2022 capital budget. However, a portion of the costs are not growth related (as already indicated by LDS in their cost sharing schedule) and an agreement is required to provide for the collection of these contributions. Specifically, we have asked for clarifications on the costing of the Parkhouse items to understand how the breakdowns were determined. We have been rebuffed every time we have asked for this information.

I will note, that we do not agree to cover the costs in the Parkhouse Project associated with modifying an external pond for dewatering purposes, or the cost of piping the water to the external pond as these costs would be required for the internal development. These are not Parkhouse specific costs and taxpayer funds will not be used for the benefit of a private development.

In summary, our comments on the cost sharing are below. Forgive me if there is any repetition but I am actually cutting and pasting from previous communications which have very clearly answered Anthony's questions:

- Sifton lands can be serviced elsewhere such as down Parkhouse or Rougham, they are not required to be serviced through Westdell's lands, although agreeable with the design proposed by LDS to service Siftons lands through Westdell's, the Municipality did not require this.
- The claims for oversizing infrastructure to the west should be LDS' responsibility to identify the cost sharing between Sifton and Westdell, not the Municipality, as the pipes are not oversized for any further development beyond Sifton's lands. Cost sharing of this magnitude was never contemplated by the Municipality, the original intent was to provide some development charge funding for only the Parkhouse Drive works. Nothing was or should be contemplated for internal site servicing.
- The Municipality is not responsible for costs associated for the dewatering outlet as this is a developer driven project. Westdell or Sifton can install services prior to Parkhouse if they wish, the request for Parkhouse to come first was made by Westdell after several inquiries from them to begin the Parkhouse project.
- **THE EXISTING MUNICIPAL DRAIN THAT RUNS THROUGH THE SITE IS BEING DECOMMISSIONED AS THE DEVELOPER HAS PROPOSED LOTS OVERTOP OF THE EXISTING DRAIN. IT IS THE DEVELOPER'S RESPONSIBILITY TO ACCOMMODATE THE EXISTING FLOWS IN THE DRAIN OR ELIMINATE THE LOTS. THE MUNICIPALITY DID NOT REQUEST OVERSIZING OF THE EXISTING MUNICIPAL DRAIN CATCHMENT AREA TO ACCOMMODATE STORM RUNOFF FROM THE LANDS TO THE EAST (LDS REFERS TO CHURCH ST OVERSIZING IN PAST). ACCORDINGLY, THE MUNICIPALITY IS NOT WILLING TO ENTERTAIN ANY COST SHARING FOR EXTERNAL AREAS WHERE THE OUTLET IS BEING REMOVED BY THE DEVELOPER FOR THE BENEFIT OF THE DEVELOPER. THEREFORE THE SWM POND OVERSIZING, COST OF LAND AND ASSOCIATED PIPES ARE NOT A REASONABLE CLAIM AND, ON THAT BASIS, THERE IS NO BUDGET, OTHER THAN A CONTRIBUTION FOR THE MINIMAL FLOWS TO THE POND FROM PARKHOUSE DR.**
- Parkhouse is a project identified in the 2018 Area Specific DC By-law. The Background Report to this Study identified portions of the project being non-growth related.

The Municipality is considering:

- Parkhouse Drive cost sharing for the Municipality's portion of the roadworks, which is funded through our DCs.

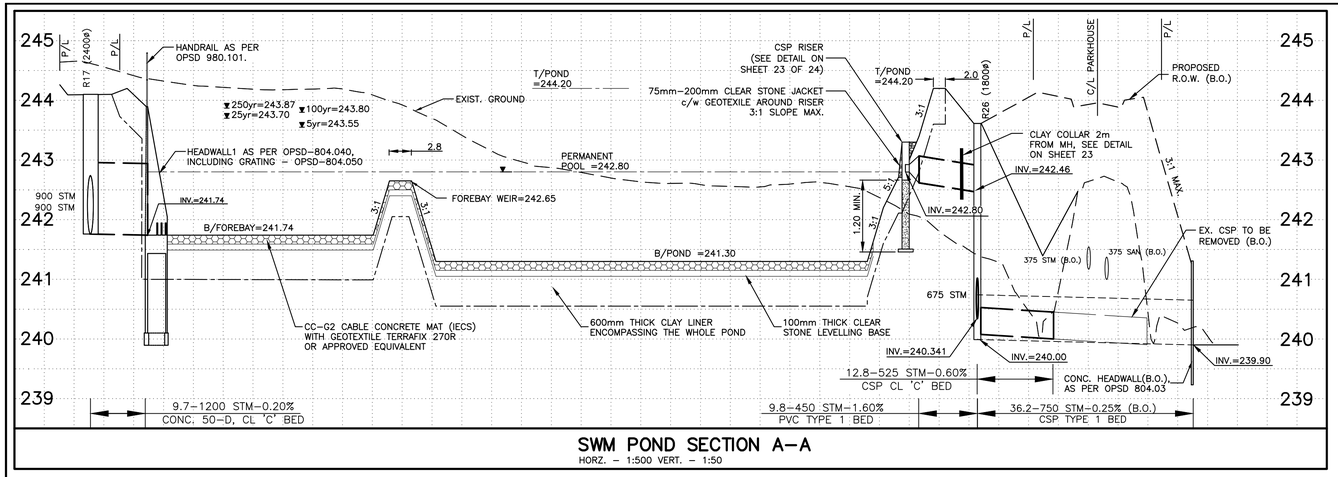
A small portion of Storm flows will be entering Westdell's site from Parkhouse Drive and enter the Storm Water Management Facility – this cost should be minimal to the Municipality and we require information on these flows in order to determine our contribution to the pond.

Pls let me know if you have any questions.

F

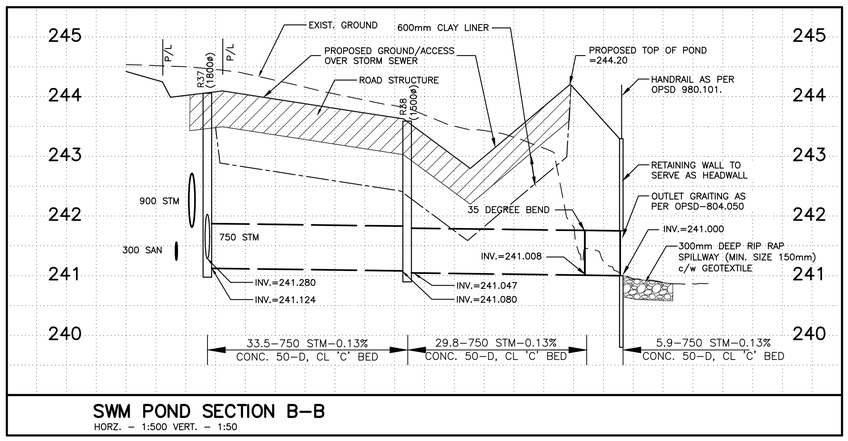
APPENDIX F

SWMF DRAWINGS



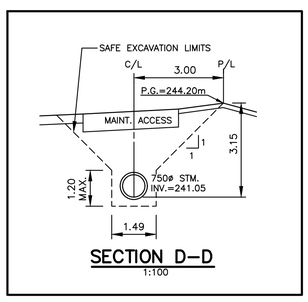
SWM POND SECTION A-A

HORZ. - 1:500 VERT. - 1:50



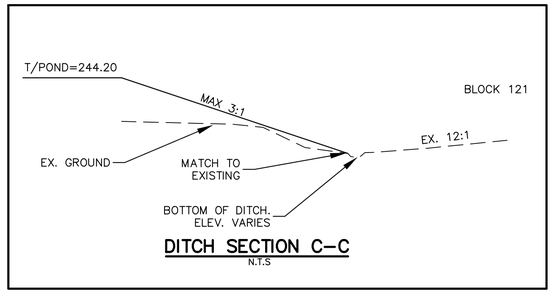
SWM POND SECTION B-B

HORZ. - 1:500 VERT. - 1:50



SECTION D-D

1:100

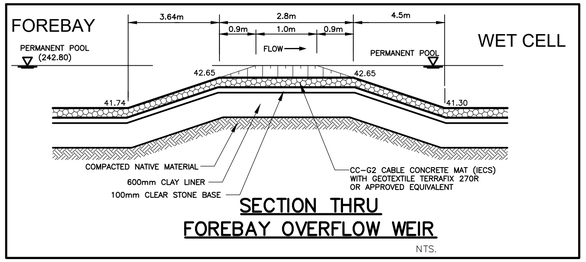


DITCH SECTION C-C

N.T.S

LEGEND

- SUBDIVISION LIMIT
- EX. STORM SEWER
- PROPOSED STORM SEWER
- FUTURE STORM SEWER
- PROPOSED MANHOLE
- EX. MANHOLE
- FUTURE MANHOLE
- PROPOSED CATCHBASIN
- PROPOSED CATCHBASIN MANHOLE
- SILT & CONSTRUCTION FENCE



SECTION THRU FOREBAY OVERFLOW WEIR

N.T.S.

RETAINING WALL NOTE
LG RETAINING SYSTEM FROM IECS GROUP INC. OR APPROVED EQUAL, COMPLETE WITH HANDRAIL (OPSD-980.101). CONTRACTOR TO PROVIDE SHOP DRAWINGS.

STORMWATER MANAGEMENT PLAN

1:400

EXISTING SERVICES	DRAWING #, SOURCE	DATE	CONSTRUCTED SERVICES	COMPLETION

DETAILS	
DESIGN	JV/AH
DRAWN BY	AH
CHECKED	AH/SB
APPROVED	AG
DATE	2024-07-15
	00135_22-23_SWM.dwg

No.	REVISIONS	DATE	CONSULTANT
1	AS PER SPRIET'S COMMENTS	OCT. 2019	LDS
2	AS PER SPRIET'S COMMENTS	MAR. 2020	LDS
3	REVISED SEWERS ON PARKHOUSE DR.	MAR. 2021	LDS
4	AS PER MUNICIPAL COMMENTS	AUG. 2021	LDS
5	REVISED SEWER SIZES	NOV. 2022	LDS
6	AS PER MUNICIPAL COMMENTS	JUN. 2023	LDS
7	REVISED SEPARATED SERVICING	SEPT. 2023	LDS
8	AS PER MUNICIPAL/SPRIET COMMENTS	OCT. 2023	LDS
9	AS PER MUNICIPAL COMMENTS	DEC. 2023	LDS
10	REVISED DRAFT PLANS	JUL. 2024	LDS

CONSULTANT OR DIVISION

LDS

ENGINEER'S STAMP

LICENSED PROFESSIONAL ENGINEER
A. H. GUDDELS
JULY 2024
PROVINCE OF ONTARIO

STRATHROY-CARADOC
URBAN OPPORTUNITY - RURAL HOSPITALITY

SCALE

SCALE AS SHOWN

TITLE

EDGEWOOD SUBDIVISION

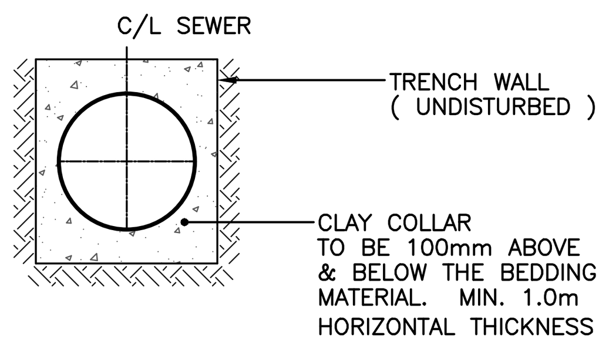
1960726 ONTARIO INC.

STORMWATER MANAGEMENT PLAN AND SECTIONS

PROJECT No. LD-00135

SHEET No. 22 of 24

PLAN FILE No.



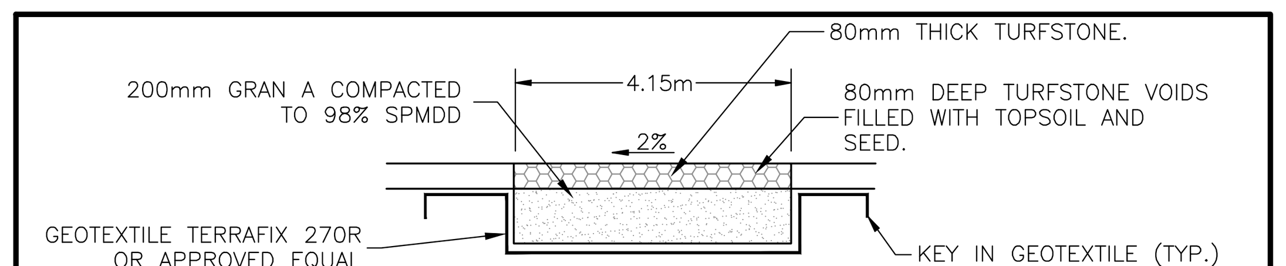
CLAY COLLAR/PLUG SHALL BE CONSTRUCTED OF PLASTIC SILTY CLAY WITH A MOISTURE CONTENT ABOUT 3% ABOVE OPTIMUM MOISTURE AS DETERMINED BY THE STANDARD PROCTOR DENSITY TEST.

CLAY COLLAR LOCATIONS, IF REQUIRED SHALL BE DETERMINED ON SITE BY THE GEOTECHNICAL ENGINEER.

THE EXCAVATION AT CLAY COLLARS SHALL BE BACKFILLED WITH COMPACTED SILTY CLAY TO AT LEAST 98% STANDARD PROCTOR MEDIUM DENSITY TEST WITH THE MATERIAL SPECIFIED TO MINIMIZE SETTLEMENT.

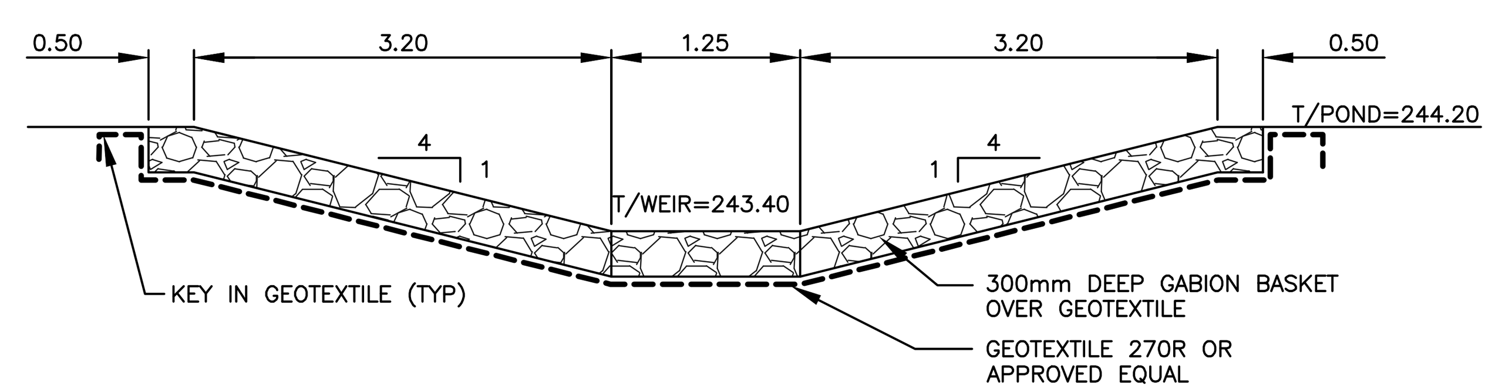
CLAY COLLAR DETAIL

N.T.S.



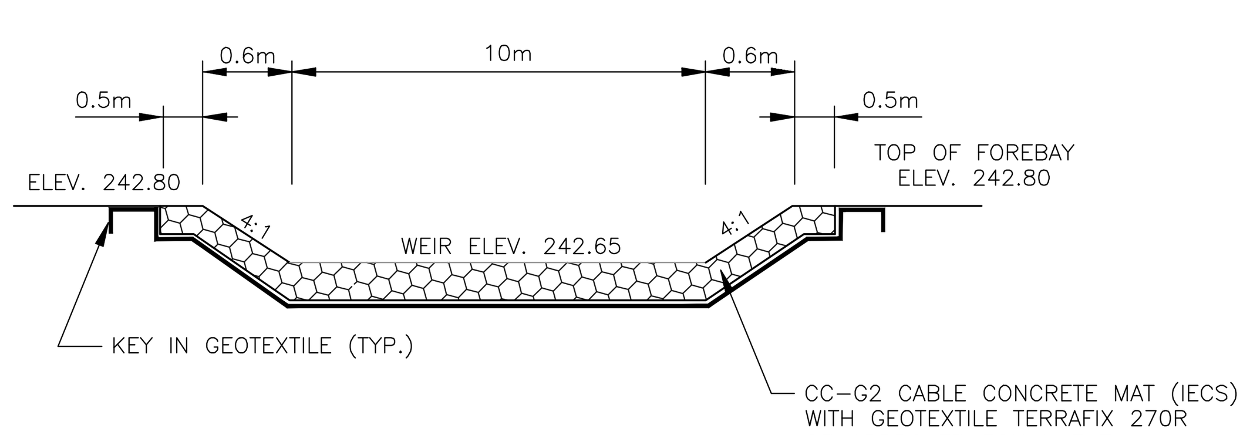
TURFSTONE ACCESS ROAD

N.T.S.



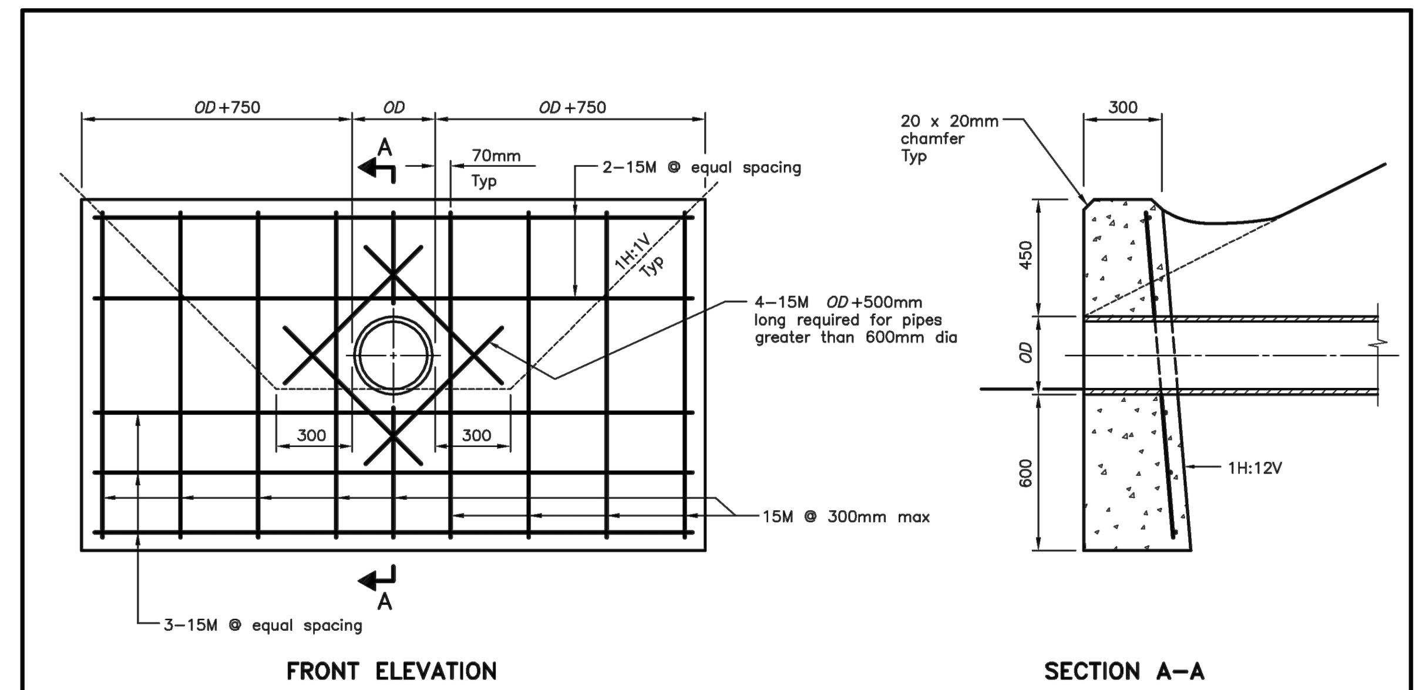
OVERFLOW WEIR DETAIL

N.T.S



FOREBAY OVERFLOW WEIR DETAILS

N.T.S.



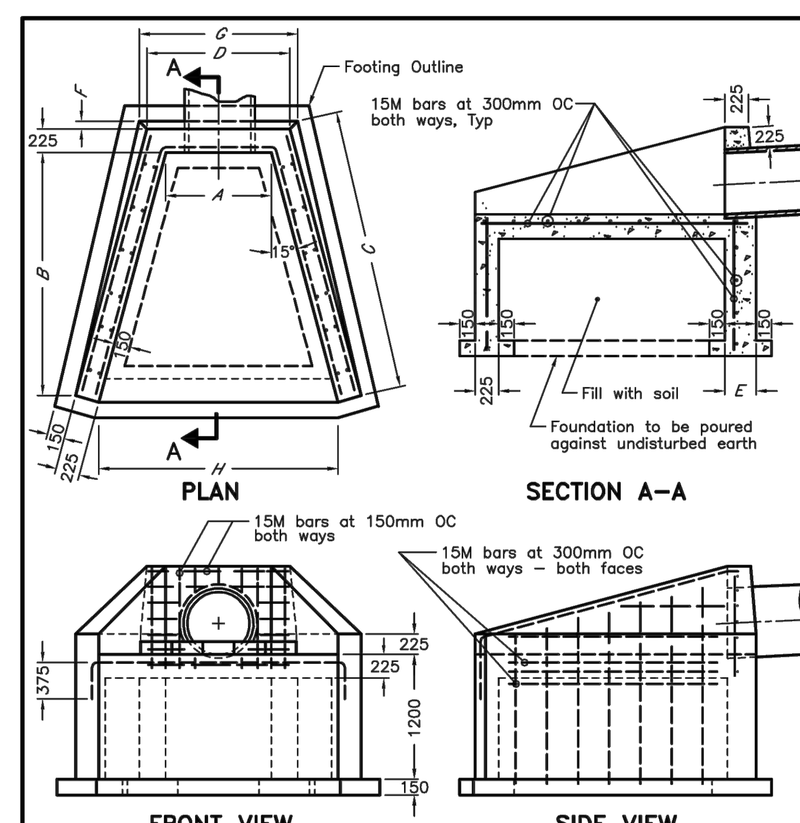
LEGEND:
OD – Outside diameter of pipe

NOTES:
A This OPSD to be read in conjunction with OPSD 3940.150.
B If a steel grate is required, refer to OPSD 804.05.
C Class of concrete: 30MPa.
D Cover to reinforcing bars 70mm ± 20mm.
E All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING | Nov 2017 | Rev 2

CONCRETE HEADWALL
FOR PIPE LESS THAN 900mm DIAMETER

OPSD 804.030



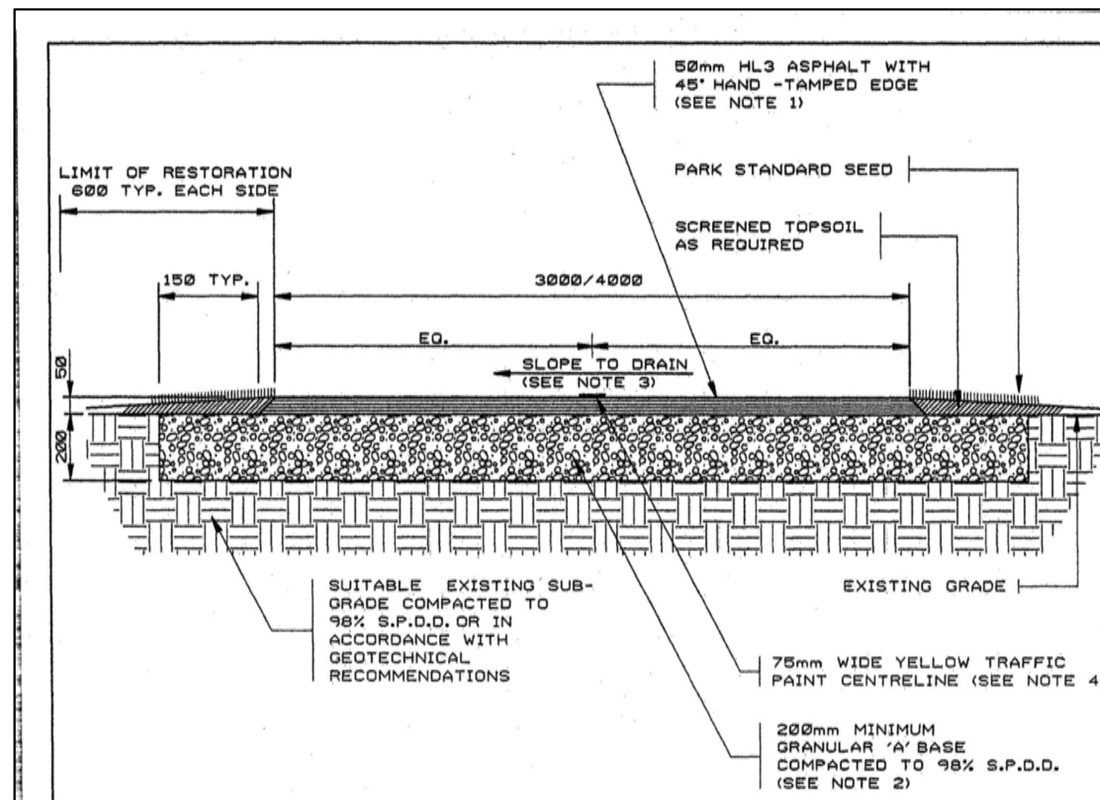
PIPE DIA	ENDWALL DIMENSIONS							
	A	B	C	D	E	F	G	H
600	1050	2400	2725	1400	300	75	1525	2350
675	1125	2400	2725	1475	300	75	1600	2425
750	1200	2400	2725	1550	300	75	1675	2500
825	1275	2400	2725	1625	300	75	1755	2575
900	1350	2400	2725	1700	300	75	1825	2650
975	1425	2400	2725	1775	375	150	1975	2725
1050	1500	3000	3400	1850	375	150	2050	3100
1200	1650	3000	3400	2000	375	150	2200	3250
1350	1800	3000	3400	2150	375	150	2350	3400
1500	1950	3000	3400	2300	375	150	2500	3550
1650	2100	3000	3400	2450	375	150	2650	3700
1800	2250	3000	3400	2600	375	150	2800	3850
2400	3000	3000	3400	3350	375	150	3550	4600

NOTES:
A This OPSD to be read in conjunction with OPSD 3940.150.
B Class of concrete: 30MPa.
C Cover to reinforcing bars: 75mm ±20mm.
D Granular backfill to be placed to 300mm min thickness on all sides.
E All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING | Nov 2017 | Rev 1

CONCRETE HEADWALL
FOR SEWER OR CULVERT PIPE OUTLET

OPSD 804.040

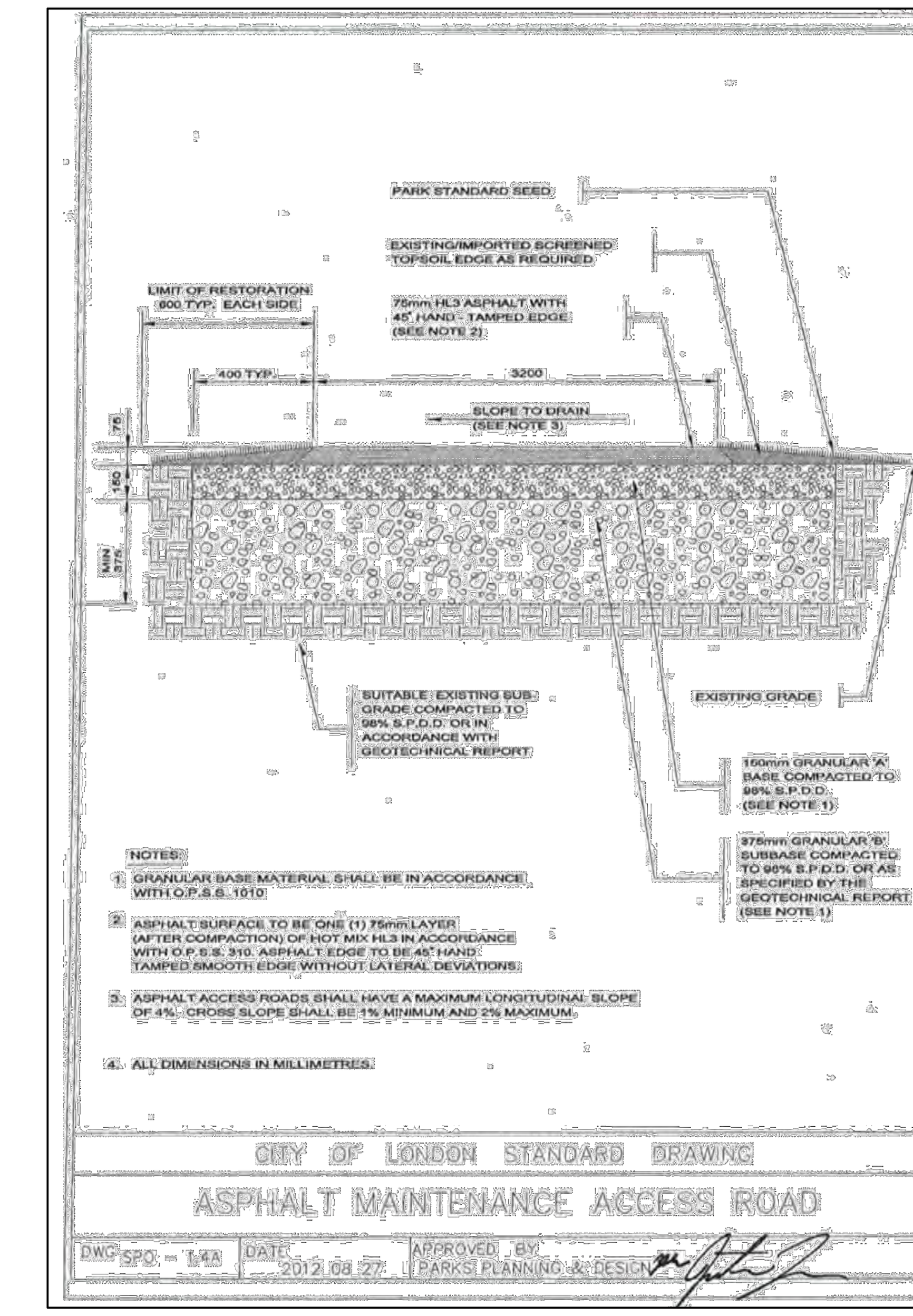


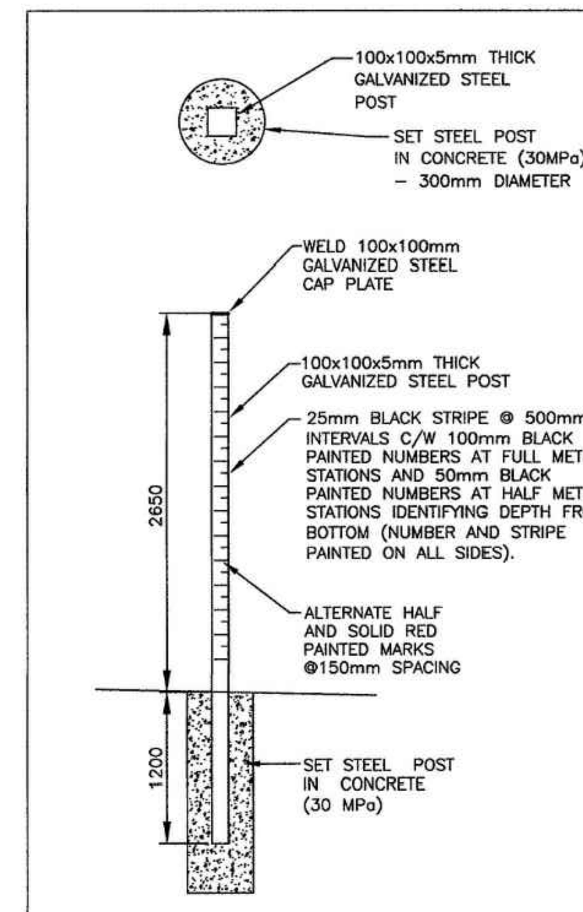
NOTES:
1. ASPHALT SURFACE TO BE ONE (1) 50mm LAYER (AFTER COMPACTION) OF HOT MIX HL3 IN ACCORDANCE WITH O.P.S.S. 310. ASPHALT EDGE TO BE 45° HAND TAMPED SMOOTH EDGE WITHOUT LATERAL DEVIATIONS.
2. GRANULAR BASE MATERIAL SHALL BE IN ACCORDANCE WITH O.P.S.S. 1010.
3. FINISHED SLOPE ON PATHWAY SURFACE TO BE 1% MINIMUM CROWNED OR CROSS-SLOPED TO SUIT EXISTING AND/OR PROPOSED GRADES.
4. CENTRELINE MARKING SHALL BE IN ACCORDANCE WITH O.P.S.S 532
5. THIS DETAIL IS NOT TO BE USED AS A MAINTENANCE ACCESS PATHWAY
6. ALL DIMENSIONS IN MILLIMETRES.

CITY OF LONDON STANDARD DRAWING

MULTI – USE PATHWAY

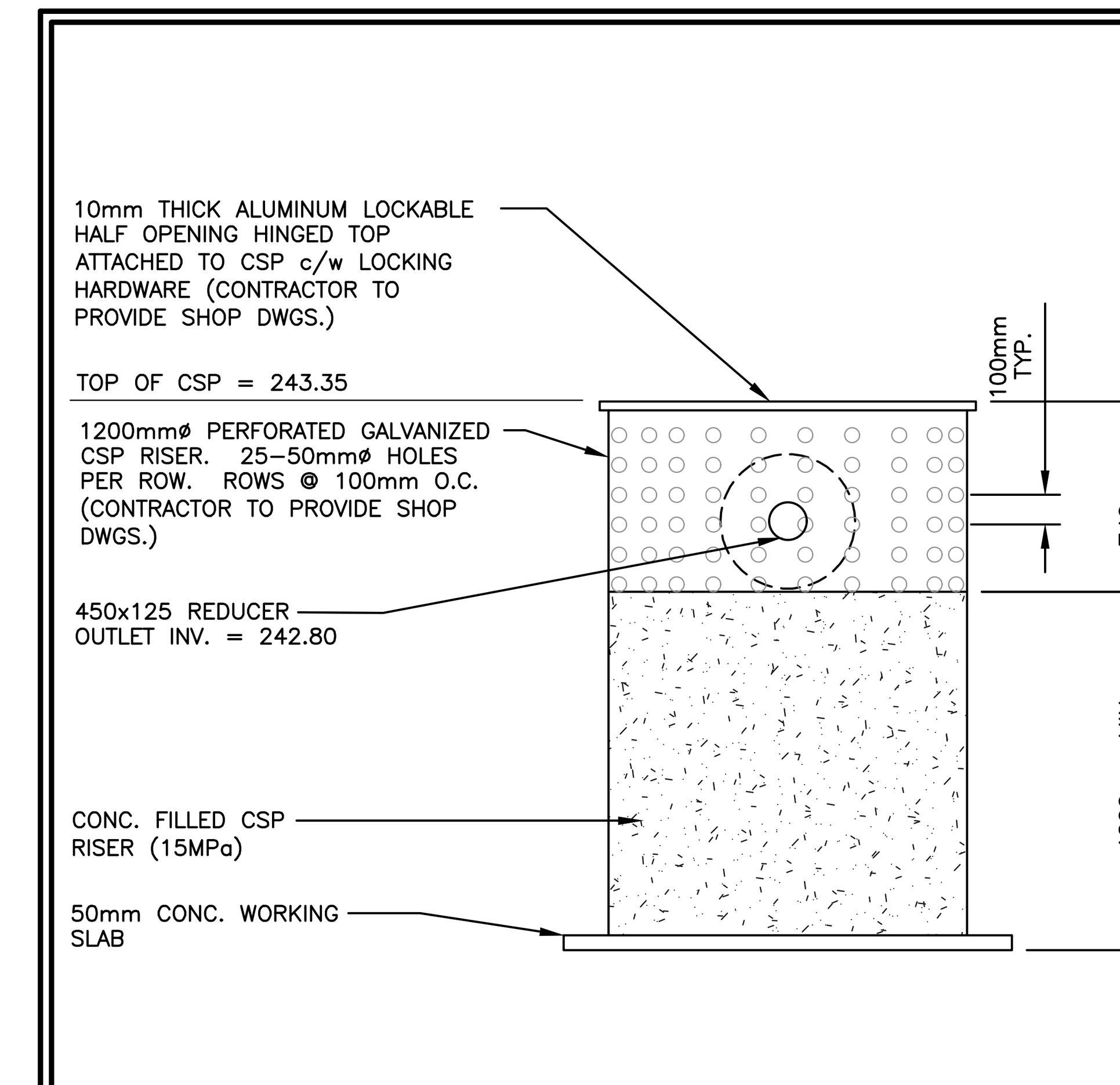
DWG SPO – 1.2 | DATE 2002 12 16 | APPROVED BY PARKS PLANNING & DESIGN





WATER LEVEL GAUGE

N.T.S.



OUTLET RISER DETAIL

N.T.S

Z:\1614-00135 – EDGEWOOD SUBDIVISION (WESTDELL CORP.) – MT. BRYDGES\DETAIL DESIGN\ACAD\CIVIL3D\SHEET FILES\00135_22-23_SWM.DWG
2024-07-15 3:53:16 PM by: ABE.HARDER

EXISTING SERVICES	DRAWING #, SOURCE	DATE	CONSTRUCTED SERVICES	COMPLETION	DETAILS		No.	REVISIONS	DATE	CONSULTANT
					DESIGN	JV/AH	1	AS PER SPRIET'S COMMENTS	OCT. 2019	LDS
					DRAWN BY	AH	2	AS PER SPRIET'S COMMENTS	MAR. 2020	LDS
					CHECKED	AH/SB	3	REVISED SEWERS ON PARKHOUSE DR.	MAR. 2021	LDS
					APPROVED	AG	4	AS PER MUNICIPAL COMMENTS	AUG. 2021	LDS
					DATE	2024-07-15	5	REVISED SEWER SIZES	NOV. 2022	LDS
							6	AS PER MUNICIPAL COMMENTS	JUN. 2023	LDS
							7	REVISED SEPARATED SERVICING	SEPT. 2023	LDS
							8	AS PER MUNICIPAL/SPRIET COMMENTS	OCT. 2023	LDS
					00135_22-23_SWM.dwg		9	AS PER MUNICIPAL COMMENTS	DEC. 2023	LDS
							10	REVISED DRAFT PLANS	JUL. 2024	LDS

CONSULTANT OR DIVISION: LDS

ENGINEER'S STAMP: LICENSED PROFESSIONAL ENGINEER – A. H. GUBBELS – JULY 2024 – PROVINCE OF ONTARIO

STRATHROY-CARADOC – URBAN OPPORTUNITY – RURAL HOSPITALITY

SCALE: SCALE AS SHOWN

TITLE: EDGEWOOD SUBDIVISION
1960726 ONTARIO INC.

STORMWATER MANAGEMENT POND DETAILS

PROJECT No. LD-00135

SHEET No. 23 of 24

PLAN FILE No.

LDS CONSULTANTS INC.

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