



FUNCTIONAL STORMWATER MANAGEMENT REPORT

**EDGEWOOD SUBDIVISIONS
MT. BRYDGES, ONTARIO**

LDS PROJECT NO. LD-00135

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Submitted to:

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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 m³/ha. Of the unit storage volume, 40 m³/ha represents the requirement for extended detention, while the remaining 118 m³/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 m³. The main pond and forebay combine to give a total permanent pool volume of 2,766 m³, nearly one and a half times the required volume recommended by the MECP. The permanent pool volume in the primary cell is 2,445 m³ and 321 m³ 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 per 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 m³/ha. Of the unit storage volume, 40 m³/ha represents the requirement for extended detention, while the remaining 123 m³/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 m³. The main pond and forebay combine to give a total permanent pool volume of 2,766 m³, which exceeds the required volume recommended by the MOE. The permanent pool volume in the primary cell is 2,445 m³ and 321 m³ 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 per 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 m³/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 OLFR is conservatively estimated to be 1.6 m³/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, m³/s
 n = Manning's n (dimensionless)
 A = Flow Area (m²)
 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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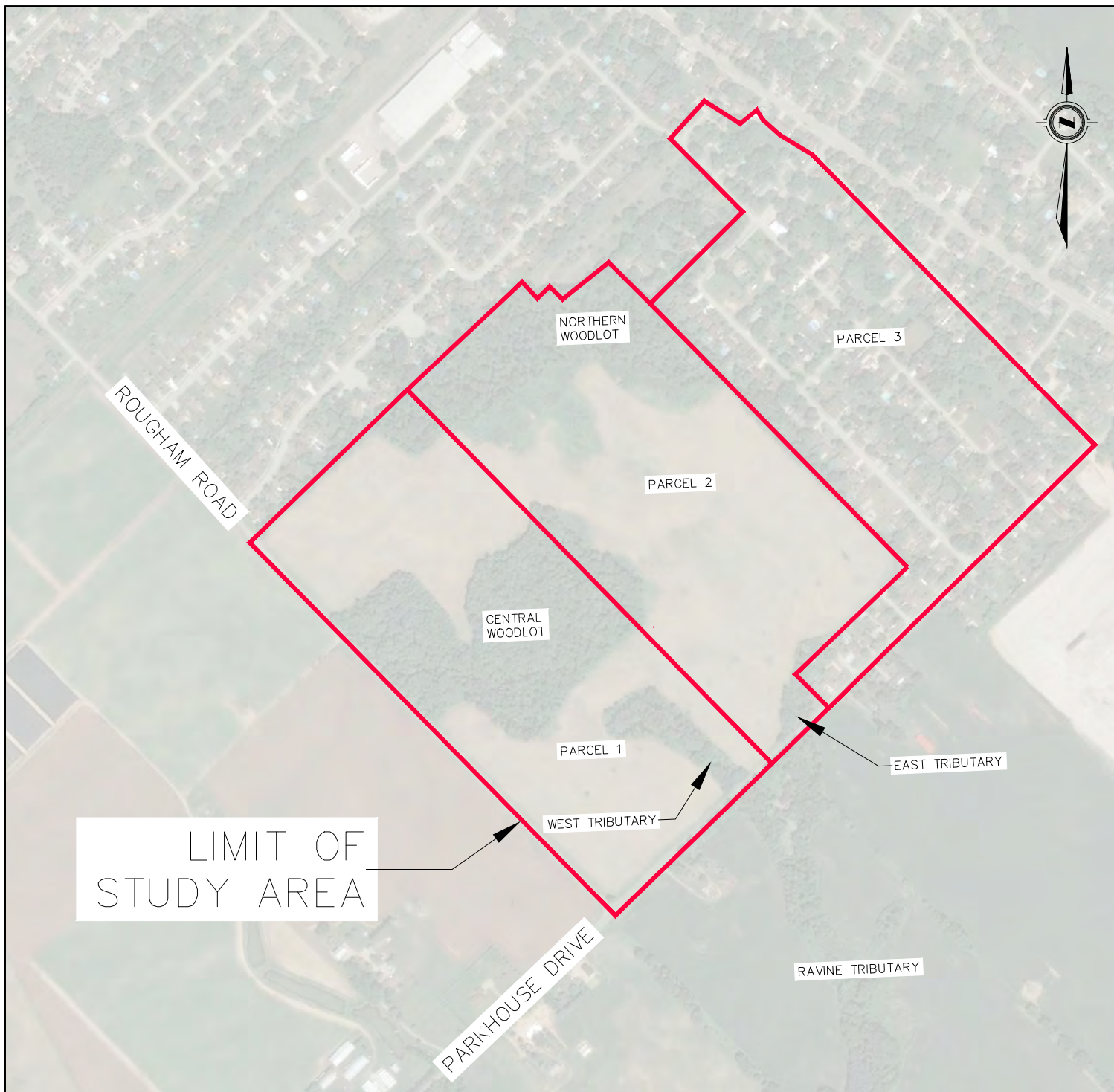
C: 519.494.7785

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APPENDIX A

FIGURES

Z:\1614-00135 - EDGEWOOD SUBDIVISION (WESTDELL CORP.) - MT. BRYDGES\DETAIL DESIGN\REPORTS\SWM\2023 - WESTDELL POND\DRAWINGS\LD-00135 LOCATION PLAN.DWG
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EDGEWOOD SUBDIVISION
WESTDELL CORPORATION

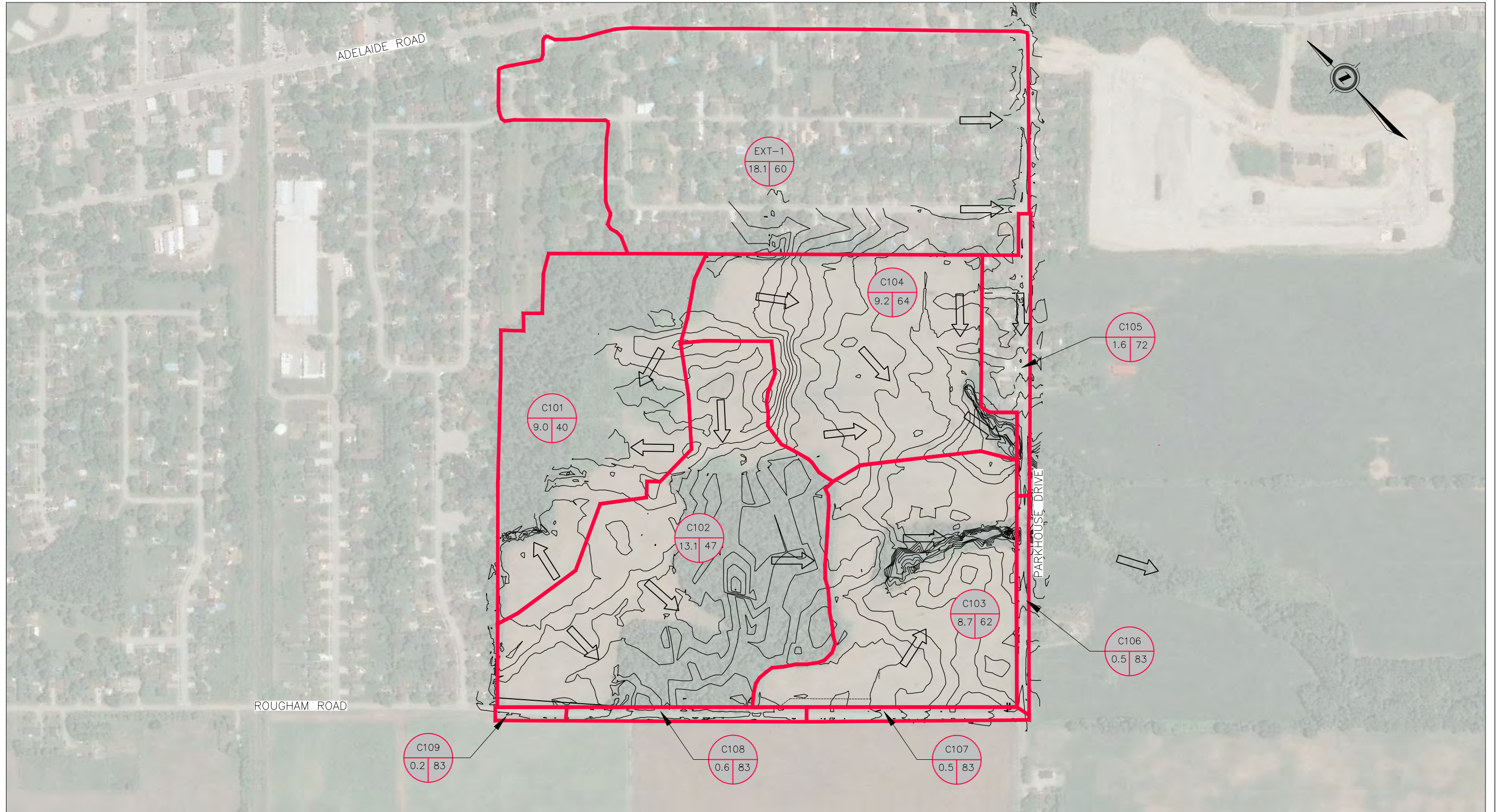
LOCATION PLAN

PROJECT: LD-00135

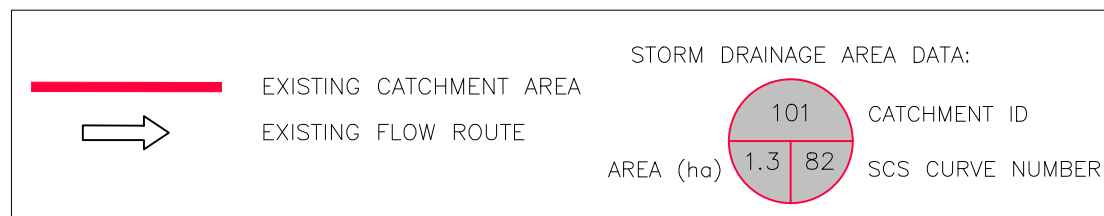
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FIGURE 1

23-1014-00135 - EDGEWOOD SUBDIVISION (WESTDELL CORP.) - MT. BRIDGES DETAIL DESIGN REPORTS (SMA 2024.07 - RELIETING OF THE EDGEWOOD SUBDIVISION LD-00135 SMA DRAWINGS.DWG
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EDGEWOOD SUBDIVISION
WESTDELL CORPORATION

EXISTING CONDITIONS DRAINAGE AREA PLAN

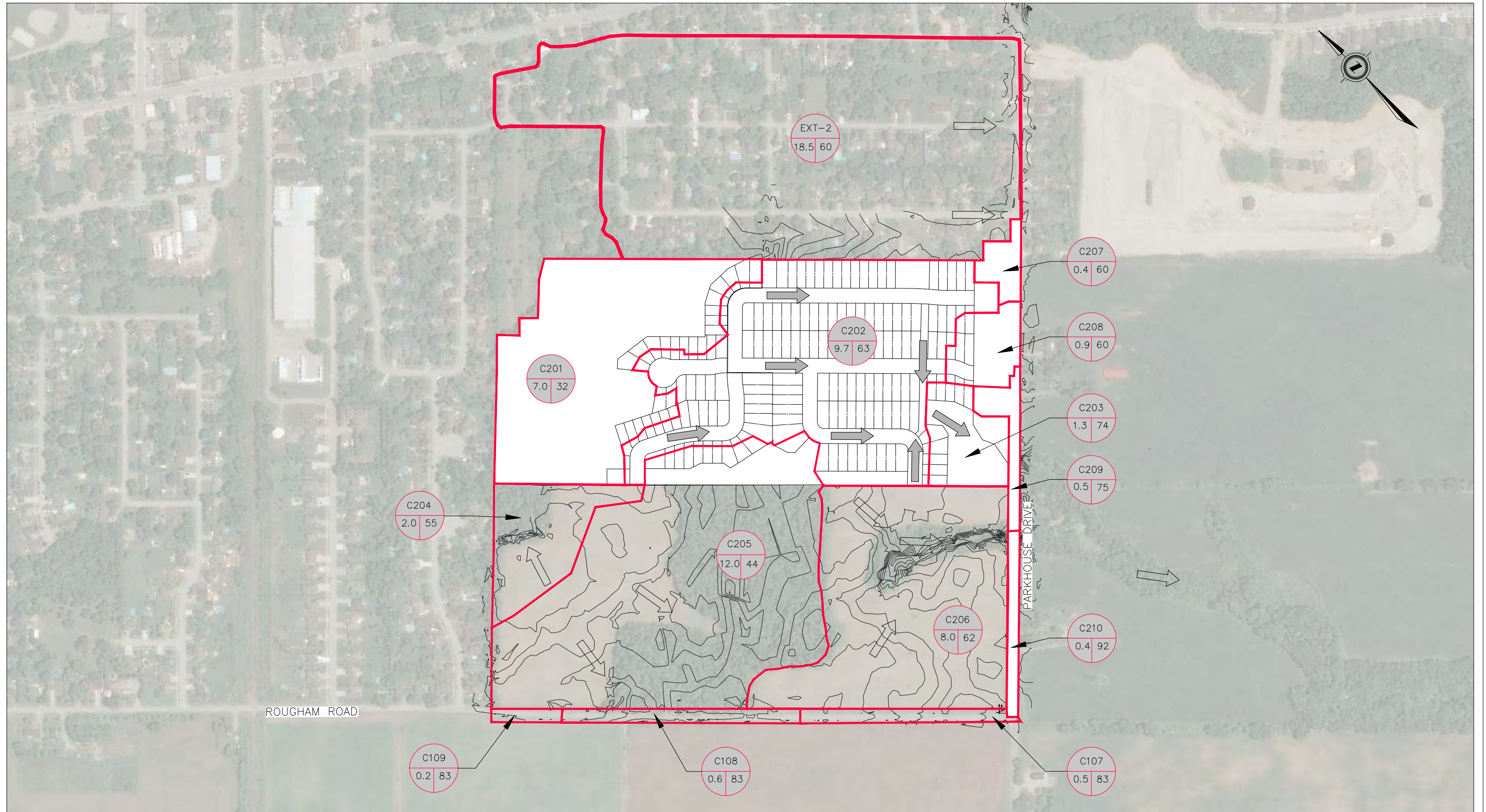
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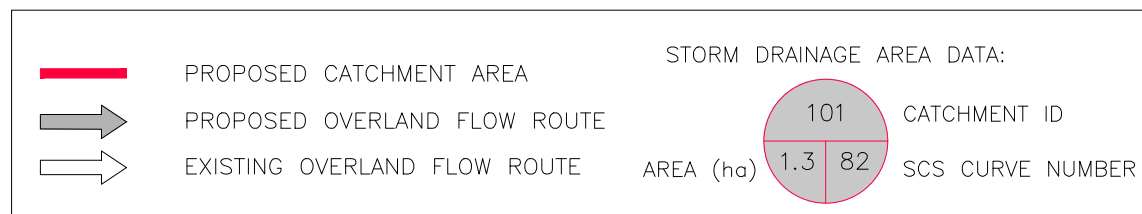
FIGURE 2



24-1614-00135 - EDGEWOOD SUBDIVISION (WESTDELL CORP.) - MT. BROOKES DETAIL DESIGN REPORTS (JAN 2024.07) - RELOCATING OF THE EDGEWOOD SUBDIVISION (LD-00135) SIMI DRAINAGE PLAN
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EDGEWOOD SUBDIVISION
WESTDELL CORPORATION

INTERIM DEVELOPMENT CONDITIONS DRAINAGE AREA PLAN

PROJECT: LD-00135

SCALE: 1:5000

FIGURE 3



APPENDIX B

SWMHYMO HYDROLOGIC MODEL

```

00001> =====
00002>
00003> SSSSS W W M M H H Y Y M M O O 999 999 =====
00004> S W W W M M M M H H Y Y M M M M O O 9 9 9 9
00005> SSSSS W W W M M M H H H H Y Y M M M O O ## 9 9 9 9 Ver 4.05
00006> S W W M M H H H Y Y M M O O 9999 9999 Sept 2011
00007> SSSSS W W M M H H Y Y M M O O 9 9 9 9
00008> ***** 9 9 9 9 # 4058874 *****
00009> StormWater Management Hydrologic Model 999 999 *****
00010>
00011> *****
00012> ***** SWHYMO 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: swmhyo@fsa.com *****
00021> *****
00022>
00023> *****
00024> ***** Licensed user: Land Development Solutions *****
00025> ***** London SERIAL#:4058874 *****
00026> *****
00027> *****
00028> ***** PROGRAM ARRAY DIMENSIONS *****
00029> *****
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> ***** DETAILED OUTPUT *****
00037> *****
00038> * DATE: 2024-07-15 TIME: 15:58:49 RUN COUNTER: 001145 *
00039> *****
00040> * Input filename: C:\SWHYMO-1\LD-00135\20240708.dat *
00041> * Output filename: C:\SWHYMO-1\LD-00135\20240708.out *
00042> * Summary filename: C:\SWHYMO-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-00135600142]
00053> * Date : 08-07-2024
00054> * Modeller : [LJ]
00055> * Company : LDS Consultants Inc.
00056> * License # : 4058874
00057> *****
00058>
00059> | START | Project dir.: C:\SWHYMO-1\LD-00135\
00060> | Rainfall dir.: C:\SWHYMO-1\LD-00135\
00061> | TZERO = .00 hrs on 0
00062> | METROUT = 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>
00078> used in: INTENSITY = A / (t + B)^C
00079>
00080> Duration of storm = 3.00 hrs
00081> Storm time step = 5.00 min
00082> Time to peak ratio = .33
00083>
00084> TIME RAIN TIME RAIN TIME RAIN TIME RAIN
00085> hrs mm/hr hrs mm/hr hrs mm/hr hrs mm/hr
00086> .08 1.866 .83 10.874 1.58 5.451 2.33 2.477
00087> .17 2.039 .92 25.649 1.67 4.784 2.42 2.342
00088> .25 2.251 1.00 75.607 1.75 4.268 2.50 2.222
00089> .33 2.519 1.08 33.194 1.83 3.856 2.58 2.115
00090> .42 2.866 1.17 18.435 1.92 3.521 2.67 2.018
00091> .50 3.335 1.25 12.551 2.00 3.242 2.75 1.931
00092> .58 4.007 1.33 9.468 2.08 3.006 2.83 1.851
00093> .67 5.048 1.42 7.594 2.17 2.804 2.92 1.779
00094> .75 6.875 1.50 6.343 2.25 2.629 3.00 1.712
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 34.2
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>
00119> PEAK FLOW (cms)= .81 .02 *TOTALS*
00120> TIME TO PEAK (hrs)= 1.02 1.72 .815 (iii)
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

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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>
00184> PEAK FLOW (cms)= .00 .01 *TOTALS*
00185> TIME TO PEAK (hrs)= 1.02 1.27 .007 (iii)
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>
00244> PEAK FLOW (cms)= .14 .00 *TOTALS*
00245> TIME TO PEAK (hrs)= 1.02 1.65 .143 (iii)
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-----

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00271>-----
00272> | CALIB NASHYD | Area (ha)= 8.73 Curve Number (CN)=62.00
00273> | 01:C103 DT= 1.00 | U.H. Tp (hrs)= .540 # of Linear Res. (N)= 3.00
00274>-----
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>
00293> IMPERVIOUS PERVIOUS (i)
00294> Surface Area (ha)= .35 .12
00295> Dep. Storage (mm)= 2.00 5.00
00296> Average Slope (%)= 1.00 2.00
00297> Length (m)= 90.00 40.00
00298> Mannings n = .013 .250
00299>
00300> Max.eff.Inten.(mm/hr)= 75.61 28.59
00301> over (min) 3.00 14.00
00302> Storage Coeff. (min)= 2.68 (ii) 14.33 (ii)
00303> Unit Hyd. Tpeak (min)= 3.00 14.00
00304> Unit Hyd. peak (cms)= .40 .08
00305>
00306> PEAK FLOW (cms)= .00 .01 .006 (iii)
00307> TIME TO PEAK (hrs)= 1.02 1.27 1.267
00308> RUNOFF VOLUME (mm)= 21.54 4.05 4.224
00309> TOTAL RAINFALL (mm)= 23.54 23.54 23.544
00310> RUNOFF COEFFICIENT = .92 .17 .179
00311>
00312> (i) CN PROCEDURE SELECTED FOR PVIOUS LOSSES:
00313> CN* = 39.0 Ia = Dep. Storage (Above)
00314> (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
00315> THAN THE STORAGE COEFFICIENT.
00316> (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00317>-----
00318>
00319> 001:0013-----
00320>
00321> | CALIB STANDHYD | Area (ha)= .54
00322> | 04:C107 DT= 1.00 | Total Imp(%)= 75.00 Dir. Conn.(%)= 1.00
00323>-----
00324>
00325> IMPERVIOUS PERVIOUS (i)
00326> Surface Area (ha)= .41 .14
00327> Dep. Storage (mm)= 2.00 5.00
00328> Average Slope (%)= 1.00 2.00
00329> Length (m)= 90.00 40.00
00330> Mannings n = .013 .250
00331>
00332> Max.eff.Inten.(mm/hr)= 75.61 28.59
00333> over (min) 3.00 14.00
00334> Storage Coeff. (min)= 2.68 (ii) 14.33 (ii)
00335> Unit Hyd. Tpeak (min)= 3.00 14.00
00336> Unit Hyd. peak (cms)= .40 .08
00337>
00338> PEAK FLOW (cms)= .00 .01 .007 (iii)
00339> TIME TO PEAK (hrs)= 1.02 1.27 1.267
00340> RUNOFF VOLUME (mm)= 21.54 4.05 4.224
00341> TOTAL RAINFALL (mm)= 23.54 23.54 23.544
00342> RUNOFF COEFFICIENT = .92 .17 .179
00343>
00344> (i) CN PROCEDURE SELECTED FOR PVIOUS LOSSES:
00345> CN* = 39.0 Ia = Dep. Storage (Above)
00346> (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
00347> THAN THE STORAGE COEFFICIENT.
00348> (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00349>-----
00350>
00351> 001:0014-----
00352>
00353> | ADD HYD (WEST-T ) | ID: NHYD AREA QPEAK TPEAK R.V. DWF
00354>-----
00355> | 01:C103 (ha) (cms) (hrs) (mm) (cms)
00356> +ID2 03:C106 .47 .006 1.27 4.22 .000
00357> +ID3 04:C107 .54 .007 1.27 4.22 .000
00358>=====
00359> SUM 07:WEST-T 9.74 .024 1.77 1.70 .000
00360>
00361> NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
00362>-----
00363>
00364> 001:0015-----
00365>
00366> | CALIB STANDHYD | Area (ha)= .17
00367> | 01:C109 DT= 1.00 | Total Imp(%)= 75.00 Dir. Conn.(%)= 1.00
00368>-----
00369>
00370> IMPERVIOUS PERVIOUS (i)
00371> Surface Area (ha)= .13 .04
00372> Dep. Storage (mm)= 2.00 5.00
00373> Average Slope (%)= 1.00 2.00
00374> Length (m)= 90.00 40.00
00375> Mannings n = .013 .250
00376>
00377> Max.eff.Inten.(mm/hr)= 75.61 28.59
00378> over (min) 3.00 14.00
00379> Storage Coeff. (min)= 2.68 (ii) 14.33 (ii)
00380> Unit Hyd. Tpeak (min)= 3.00 14.00
00381> Unit Hyd. peak (cms)= .40 .08
00382>
00383> PEAK FLOW (cms)= .00 .00 .002 (iii)
00384> TIME TO PEAK (hrs)= 1.02 1.27 1.267
00385> RUNOFF VOLUME (mm)= 21.54 4.05 4.224
00386> TOTAL RAINFALL (mm)= 23.54 23.54 23.544
00387> RUNOFF COEFFICIENT = .92 .17 .179
00388>
00389> (i) CN PROCEDURE SELECTED FOR PVIOUS LOSSES:
00390> CN* = 39.0 Ia = Dep. Storage (Above)
00391> (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
00392> THAN THE STORAGE COEFFICIENT.
00393> (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00394>-----
00395>
00396> 001:0016-----
00397>
00398> | CALIB STANDHYD | Area (ha)= 9.66
00399> | 01:C202 DT= 1.00 | Total Imp(%)= 40.00 Dir. Conn.(%)= 30.00
00400>-----
00401>
00402> IMPERVIOUS PERVIOUS (i)
00403> Surface Area (ha)= 3.86 5.80
00404> Dep. Storage (mm)= 2.00 5.00

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```

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>
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 PVIOUS 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>
00435> IMPERVIOUS PERVIOUS (i)
00436> Surface Area (ha)= .15 .29
00437> Dep. Storage (mm)= 2.00 5.00
00438> Average Slope (%)= 1.00 2.00
00439> Length (m)= 90.00 25.00
00440> Mannings n = .013 .250
00441>
00442> Max.eff.Inten.(mm/hr)= 75.61 1.23
00443> over (min) 3.00 34.00
00444> Storage Coeff. (min)= 2.68 (ii) 33.63 (ii)
00445> Unit Hyd. Tpeak (min)= 3.00 34.00
00446> Unit Hyd. peak (cms)= .40 .03
00447>
00448> PEAK FLOW (cms)= .02 .00 .019 (iii)
00449> TIME TO PEAK (hrs)= 1.02 1.72 1.017
00450> RUNOFF VOLUME (mm)= 21.54 1.02 6.147
00451> TOTAL RAINFALL (mm)= 23.54 23.54 23.544
00452> RUNOFF COEFFICIENT = .92 .04 .261
00453>
00454> (i) CN PROCEDURE SELECTED FOR PVIOUS LOSSES:
00455> CN* = 39.0 Ia = Dep. Storage (Above)
00456> (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
00457> THAN THE STORAGE COEFFICIENT.
00458> (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00459>-----
00460>
00461> 001:0018-----
00462>
00463> | COMPUTE DUALHYD | Average inlet capacities [CINLET] = .064 (cms)
00464> | TotalHyd 02:C207 | Number of inlets in system [NINLET] = 1
00465> Total minor system capacity = .064 (cms)
00466> Total major system storage [TMJSTO] = 0. (cu.m.)
00467>
00468> ID: NHYD AREA QPEAK TPEAK R.V. DWF
00469> 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>
00483> IMPERVIOUS PERVIOUS (i)
00484> Surface Area (ha)= .33 .60
00485> Dep. Storage (mm)= 2.00 5.00
00486> Average Slope (%)= 1.00 2.00
00487> Length (m)= 90.00 25.00
00488> Mannings n = .013 .250
00489>
00490> Max.eff.Inten.(mm/hr)= 75.61 1.23
00491> over (min) 3.00 34.00
00492> Storage Coeff. (min)= 2.68 (ii) 33.63 (ii)
00493> Unit Hyd. Tpeak (min)= 3.00 34.00
00494> Unit Hyd. peak (cms)= .40 .03
00495>
00496> PEAK FLOW (cms)= .04 .00 .041 (iii)
00497> TIME TO PEAK (hrs)= 1.02 1.72 1.017
00498> RUNOFF VOLUME (mm)= 21.54 1.02 6.147
00499> TOTAL RAINFALL (mm)= 23.54 23.54 23.544
00500> RUNOFF COEFFICIENT = .92 .04 .261
00501>
00502> (i) CN PROCEDURE SELECTED FOR PVIOUS LOSSES:
00503> CN* = 39.0 Ia = Dep. Storage (Above)
00504> (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
00505> THAN THE STORAGE COEFFICIENT.
00506> (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00507>-----
00508>
00509> 001:0020-----
00510>
00511> | COMPUTE DUALHYD | Average inlet capacities [CINLET] = .119 (cms)
00512> | TotalHyd 02:C208 | Number of inlets in system [NINLET] = 1
00513> Total minor system capacity = .119 (cms)
00514> Total major system storage [TMJSTO] = 0. (cu.m.)
00515>
00516> ID: NHYD AREA QPEAK TPEAK R.V. DWF
00517> 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>
00531> IMPERVIOUS PERVIOUS (i)
00532> Surface Area (ha)= .88 .41
00533> Dep. Storage (mm)= 2.00 5.00
00534> Average Slope (%)= 1.00 2.00
00535> Length (m)= 100.00 100.00
00536> Mannings n = .013 .250
00537>
00538> Max.eff.Inten.(mm/hr)= 75.61 2.75
00539> over (min) 4.00 55.00
00540> Storage Coeff. (min)= 3.52 (ii) 54.99 (ii)
00541> Unit Hyd. Tpeak (min)= 4.00 55.00

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00541> Unit Hyd. peak (cms)= .31 .02
00542>
00543> PEAK FLOW (cms)= .14 .00 *TOTALS*
00544> TIME TO PEAK (hrs)= 1.03 2.17 1.033 (iii)
00545> RUNOFF VOLUME (mm)= 21.54 .90 14.526
00546> TOTAL RAINFALL (mm)= 23.54 23.54 23.544
00547> RUNOFF COEFFICIENT = .92 .04 .617
00548>
00549> (i) CN PROCEDURE SELECTED FOR PVIOUS LOSSES:
00550> CN* = 39.0 Ia = Dep. Storage (Above)
00551> (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
00552> THAN THE STORAGE COEFFICIENT.
00553> (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00554>
00555>
00556> 001:0022-----
00557> | ADD HYD (toSWMF) | ID: NHYD | AREA | QPEAK | TPEAK | R.V. | DWF
00558> | (ha) | (cms) | (hrs) | (mm) | (cms) |
00559> |-----|
00560> | ID1 01:C202 | 9.66 | .510 | 1.02 | 7.18 | .000
00561> | +ID2 02:C203 | 1.29 | .135 | 1.03 | 14.53 | .000
00562> | +ID3 03:toSWMF1 | .44 | .019 | 1.02 | 6.15 | .000
00563> | +ID4 05:toSWMF2 | .93 | .041 | 1.02 | 6.15 | .000
00564> |-----|
00565> | SUM 07:toSWMF | 12.32 | .705 | 1.02 | 7.84 | .000
00566>
00567> NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
00568>
00569>
00570> 001:0023-----
00571> | ROUTE RESERVOIR | Requested routing time step = 1.0 min.
00572> | INP07 (toSWMF) |
00573> | OUT<01: (SWMF) | |
00574> |-----|
00575> | OUTFLOW | STORAGE | OUTFLOW | STORAGE |
00576> | (cms) | (ha.m.) | (cms) | (ha.m.) |
00577> | .000 | .0000E+00 | .340 | .2740E+00 |
00578> | .011 | .2900E-01 | .697 | .3140E+00 |
00579> | .015 | .6000E-01 | 1.206 | .3540E+00 |
00580> | .019 | .9200E-01 | 1.880 | .3960E+00 |
00581> | .022 | .1260E+00 | 2.734 | .4380E+00 |
00582> | .024 | .1610E+00 | 3.779 | .4820E+00 |
00583> | .027 | .1980E+00 | 5.029 | .5260E+00 |
00584> | .120 | .2360E+00 | 1.000 | .0000E+00 |
00585>
00586> ROUTING RESULTS | AREA | QPEAK | TPEAK | R.V.
00587> | (ha) | (cms) | (hrs) | (mm) |
00588> | 12.32 | .705 | 1.017 | 7.838 |
00589> | OUTFLOW<01: (SWMF) | 12.32 | .018 | 3.050 | 7.838 |
00590> | OVERFLOW<02: (OverQ) | .00 | .000 | .000 | .000 |
00591>
00592> TOTAL NUMBER OF SIMULATED OVERFLOWS = 0
00593> CUMULATIVE TIME OF OVERFLOWS (hours) = .00
00594> PERCENTAGE OF TIME OVERFLOWING (%) = .00
00595>
00596> PEAK FLOW REDUCTION [Qout/Qin] (%) = 2.524
00597> TIME SHIFT OF PEAK FLOW (min) = 122.00
00598> MAXIMUM STORAGE USED (ha.m.) = .8229E-01
00599>
00600>
00601>
00602> 001:0024-----
00603>
00604> | CALIB STANDHYD | Area (ha)= 18.54
00605> | 03:EX-2 DT= 1.00 | Total Imp(%)= 35.00 Dir. Conn.(%)= 25.00
00606>
00607>
00608> Surface Area (ha)= IMPERVIOUS PERVIOUS (i)
00609> Dep. Storage (mm)= 2.00 5.00
00610> Average Slope (%)= 1.00 2.00
00611> Length (m)= 90.00 50.00
00612> Mannings n = .013 .250
00613>
00614> Max.eff.Inten.(mm/hr)= 75.61 3.42
00615> over (min) 3.00 34.00
00616> Storage Coeff. (min)= 2.68 (ii) 33.82 (ii)
00617> Unit Hyd. Tpeak (min)= 3.00 34.00
00618> Unit Hyd. peak (cms)= .40 .03
00619>
00620> PEAK FLOW (cms)= .81 .02 *TOTALS*
00621> TIME TO PEAK (hrs)= 1.02 1.72 1.017
00622> RUNOFF VOLUME (mm)= 21.54 1.02 6.147
00623> TOTAL RAINFALL (mm)= 23.54 23.54 23.544
00624> RUNOFF COEFFICIENT = .92 .04 .261
00625>
00626> (i) CN PROCEDURE SELECTED FOR PVIOUS LOSSES:
00627> CN* = 39.0 Ia = Dep. Storage (Above)
00628> (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
00629> THAN THE STORAGE COEFFICIENT.
00630> (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00631>
00632>
00633> 001:0025-----
00634>
00635> | CALIB STANDHYD | Area (ha)= .51
00636> | 05:C209 DT= 1.00 | Total Imp(%)= 61.00 Dir. Conn.(%)= 55.00
00637>
00638>
00639> Surface Area (ha)= IMPERVIOUS PERVIOUS (i)
00640> Dep. Storage (mm)= 2.00 5.00
00641> Average Slope (%)= 1.00 2.00
00642> Length (m)= 90.00 10.00
00643> Mannings n = .013 .250
00644>
00645> Max.eff.Inten.(mm/hr)= 75.61 1.64
00646> over (min) 3.00 19.00
00647> Storage Coeff. (min)= 2.68 (ii) 18.60 (ii)
00648> Unit Hyd. Tpeak (min)= 3.00 19.00
00649> Unit Hyd. peak (cms)= .40 .06
00650>
00651> PEAK FLOW (cms)= .05 .00 *TOTALS*
00652> TIME TO PEAK (hrs)= 1.02 1.42 .049 (iii)
00653> RUNOFF VOLUME (mm)= 21.54 1.02 12.306
00654> TOTAL RAINFALL (mm)= 23.54 23.54 23.544
00655> RUNOFF COEFFICIENT = .92 .04 .523
00656>
00657> (i) CN PROCEDURE SELECTED FOR PVIOUS LOSSES:
00658> CN* = 39.0 Ia = Dep. Storage (Above)
00659> (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
00660> THAN THE STORAGE COEFFICIENT.
00661> (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00662>
00663>
00664> 001:0026-----
00665>
00666> | COMPUTE DUALHYD | Average inlet capacities [CINLET] = .109 (cms)
00667> | TotalHyd 05:C209 | Number of inlets in system [NINLET] = 1
00668> | Total minor system capacity = .109 (cms)
00669> | Total major system storage [TMJSTO] = 0. (cu.m.)
00670>
00671> ID: NHYD | AREA | QPEAK | TPEAK | R.V. | DWF
00672> | (ha) | (cms) | (hrs) | (mm) | (cms) |
00673> | TOTAL HYD. 05:C209 | .51 | .049 | 1.017 | 12.306 | .000
00674>
00675> MAJOR SYST 08:toET3 .00 .000 .000 .000 .000

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00676> MINOR SYST 07:toWT1 .51 .049 1.017 12.306 .000
00677>
00678> NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
00679>
00680>
00681> 001:0027-----
00682> | ADD HYD (EAST-T ) | ID: NHYD | AREA | QPEAK | TPEAK | R.V. | DWF
00683> | (ha) | (cms) | (hrs) | (mm) | (cms) |
00684> |-----|
00685> | ID1 01:SWMF | 12.32 | .018 | 3.05 | 7.84 | .000
00686> | +ID2 02:OverQ | .00 | .000 | .00 | .00 | .000
00687> | +ID3 03:EX-2 | 18.54 | .815 | 1.02 | 6.15 | .000
00688> | +ID4 04:toET1 | .00 | .000 | .00 | .00 | .000
00689> | +ID5 06:toET2 | .00 | .000 | .00 | .00 | .000
00690> | +ID6 08:toET3 | .00 | .000 | .00 | .00 | .000
00691> |-----|
00692> | SUM 05:EAST-T | 30.86 | .825 | 1.02 | 6.82 | .000
00693>
00694> NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
00695>
00696>
00697> 001:0028-----
00698>
00699> | CALIB STANDHYD | Area (ha)= .39
00700> | 01:C210 DT= 1.00 | Total Imp(%)= 90.00 Dir. Conn.(%)= 90.00
00701>
00702>
00703> Surface Area (ha)= IMPERVIOUS PERVIOUS (i)
00704> Dep. Storage (mm)= 2.00 5.00
00705> Average Slope (%)= 1.00 2.00
00706> Length (m)= 90.00 10.00
00707> Mannings n = .013 .250
00708>
00709> Max.eff.Inten.(mm/hr)= 75.61 1.05
00710> over (min) 3.00 22.00
00711> Storage Coeff. (min)= 2.68 (ii) 21.66 (ii)
00712> Unit Hyd. Tpeak (min)= 3.00 22.00
00713> Unit Hyd. peak (cms)= .40 .05
00714>
00715> PEAK FLOW (cms)= .06 .00 *TOTALS*
00716> TIME TO PEAK (hrs)= 1.02 1.50 1.017
00717> RUNOFF VOLUME (mm)= 21.54 .83 19.472
00718> TOTAL RAINFALL (mm)= 23.54 23.54 23.544
00719> RUNOFF COEFFICIENT = .92 .04 .827
00720>
00721> (i) CN PROCEDURE SELECTED FOR PVIOUS LOSSES:
00722> CN* = 39.0 Ia = Dep. Storage (Above)
00723> (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
00724> THAN THE STORAGE COEFFICIENT.
00725> (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00726>
00727>
00728>
00729>
00730> | CALIB NASHYD | Area (ha)= 7.98 Curve Number (CN)=62.00
00731> | 02:C206 DT= 1.00 | Ia (mm)= 8.000 # of Linear Res. (N)= 3.00
00732> | U.H. Tp(hrs)= .540
00733>
00734> Unit Hyd Qpeak (cms)= .564
00735>
00736> PEAK FLOW (cms)= .017 (i)
00737> TIME TO PEAK (hrs)= 1.933
00738> RUNOFF VOLUME (mm)= 1.411
00739> TOTAL RAINFALL (mm)= 23.544
00740> RUNOFF COEFFICIENT = .060
00741>
00742> (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00743>
00744>
00745> 001:0030-----
00746>
00747> | CALIB STANDHYD | Area (ha)= .54
00748> | 03:C107 DT= 1.00 | Total Imp(%)= 75.00 Dir. Conn.(%)= 1.00
00749>
00750>
00751> Surface Area (ha)= IMPERVIOUS PERVIOUS (i)
00752> Dep. Storage (mm)= .41 .14
00753> Average Slope (%)= 1.00 2.00
00754> Length (m)= 90.00 40.00
00755> Mannings n = .013 .250
00756>
00757> Max.eff.Inten.(mm/hr)= 75.61 28.59
00758> over (min) 3.00 14.00
00759> Storage Coeff. (min)= 2.68 (ii) 14.33 (ii)
00760> Unit Hyd. Tpeak (min)= 3.00 14.00
00761> Unit Hyd. peak (cms)= .40 .08
00762>
00763> PEAK FLOW (cms)= .00 .01 *TOTALS*
00764> TIME TO PEAK (hrs)= 1.02 1.27 1.267
00765> RUNOFF VOLUME (mm)= 21.54 4.05 4.224
00766> TOTAL RAINFALL (mm)= 23.54 23.54 23.544
00767> RUNOFF COEFFICIENT = .92 .17 .179
00768>
00769> (i) CN PROCEDURE SELECTED FOR PVIOUS LOSSES:
00770> CN* = 39.0 Ia = Dep. Storage (Above)
00771> (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
00772> THAN THE STORAGE COEFFICIENT.
00773> (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00774>
00775>
00776> 001:0031-----
00777> | ADD HYD (WEST-T ) | ID: NHYD | AREA | QPEAK | TPEAK | R.V. | DWF
00778> | (ha) | (cms) | (hrs) | (mm) | (cms) |
00779> |-----|
00780> | ID1 01:C210 | .39 | .062 | 1.02 | 19.47 | .000
00781> | +ID2 02:C206 | 7.98 | .017 | 1.93 | 1.41 | .000
00782> | +ID3 03:C107 | .54 | .007 | 1.27 | 4.22 | .000
00783> | +ID4 07:toWT1 | .51 | .049 | 1.02 | 12.31 | .000
00784> |-----|
00785> | SUM 04:WEST-T | 9.42 | .114 | 1.02 | 2.91 | .000
00786>
00787> NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
00788>
00789>
00790> 001:0032-----
00791>
00792> | CALIB NASHYD | Area (ha)= 6.96 Curve Number (CN)=32.00
00793> | 01:C201 DT= 1.00 | Ia (mm)= 8.000 # of Linear Res. (N)= 3.00
00794> | U.H. Tp(hrs)= .510
00795>
00796> Unit Hyd Qpeak (cms)= .521
00797>
00798> PEAK FLOW (cms)= .005 (i)
00799> TIME TO PEAK (hrs)= 1.900
00800> RUNOFF VOLUME (mm)= .435
00801> TOTAL RAINFALL (mm)= 23.544
00802> RUNOFF COEFFICIENT = .018
00803>
00804> (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00805>
00806>
00807> 001:0033-----
00808>
00809> | CALIB NASHYD | Area (ha)= 2.04 Curve Number (CN)=55.00
00810> | 02:C204 DT= 1.00 | Ia (mm)= 8.000 # of Linear Res. (N)= 3.00

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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> | 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 STANDHYD | 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>
00871> PEAK FLOW (cms)= .00 .01 *TOTALS*
00872> TIME TO PEAK (hrs)= 1.02 1.27 .007 (iii)
00873> RUNOFF VOLUME (mm)= 21.54 4.05 1.267
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> | 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> *# PROPOSED ULTIMATE DEVELOPMENT CONDITIONS *#
00899> *#-----*
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>
00919> PEAK FLOW (cms)= .05 .00 *TOTALS*
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:toCWMF | .00 .045 .000 .000 .000
00944> | MINOR SYST 02:toSWMF | .43 .045 1.017 13.733 .000
00945>

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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>
00967> PEAK FLOW (cms)= .21 .00 *TOTALS*
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:toCWMF | .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>
01015> PEAK FLOW (cms)= .11 .00 *TOTALS*
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:toCWMF | .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>
01063> PEAK FLOW (cms)= .04 .00 *TOTALS*
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)

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01081> Total major system storage [TMJSTO] = 0. (cu.m.)
01082>
01083> ID: NHYD AREA QPEAK TPEAK R.V. DWF
01084> (ha) (cms) (hrs) (mm) (cms)
01085> TOTAL HYD. 01:C308 .27 .043 1.017 19.472 .000
01086>
01087> MAJOR SYST 09:toC207 .03 .018 1.017 19.472 .000
01088> MINOR SYST 08:toSWMF .24 .025 .967 19.472 .000
01089>
01090> NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
01091>
01092> -----
01093> 001:0046-----
01094>
01095> | CALIB NASHYD | Area (ha)= 9.89 Curve Number (CN)=34.00
01096> | 01:C304 DT= 1.00 | Ia (mm)= 8.000 # of Linear Res. (N)= 3.00
01097> | U.H. Tp(hrs)= .510
01098>
01099> Unit Hyd Qpeak (cms)= .741
01100>
01101> PEAK FLOW (cms)= .007 (i)
01102> TIME TO PEAK (hrs)= 1.900
01103> RUNOFF VOLUME (mm)= 1.900
01104> TOTAL RAINFALL (mm)= 23.544
01105> RUNOFF COEFFICIENT = .020
01106>
01107> (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
01108>
01109> -----
01110> 001:0047-----
01111>
01112> | ADD HYD (CENTER-W ) | ID: NHYD AREA QPEAK TPEAK R.V. DWF
01113> (ha) (cms) (hrs) (mm) (cms)
01114> ID1 01:C304 9.89 .007 1.90 .48 .000
01115> +ID2 03:toCW1 .00 .000 .00 .00 .000
01116> +ID3 05:toCW2 .00 .000 .00 .00 .000
01117> +ID4 07:toCW3 .00 .000 .00 .00 .000
01118> +ID5 09:toCW4 .03 .018 1.02 19.47 .000
01119>
01120> SUM 10:toCENTER-W 9.92 .018 1.02 .53 .000
01121>
01122> NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
01123>
01124> -----
01125> 001:0048-----
01126>
01127> | ROUTE RESERVOIR | Requested routing time step = 1.0 min.
01128> | IN>04: (toSWMF) |
01129> | OUT<01: (CW-SSD) |
01130>
01131> ===== OUTFLOW STORAGE TABLE =====
01132> OUTFLOW STORAGE OUTFLOW STORAGE
01133> (cms) (ha.m.) (cms) (ha.m.)
01134> .000 .0000E+00 | .222 .6400E+00
01135> .000 .3700E+00 | .000 .0000E+00
01136>
01137> ROUTING RESULTS AREA QPEAK TPEAK R.V.
01138> (ha) (cms) (hrs) (mm)
01139> INFLOW >10: (CENTER) 9.92 .018 1.017 .527
01140> OUTFLOW<01: (CW-SSD) 9.92 .000 .000 .000
01141> OVERFLOW<03: (toWT1) .00 .000 .000 .000
01142>
01143> TOTAL NUMBER OF SIMULATED OVERFLOWS = 0
01144> CUMULATIVE TIME OF OVERFLOWS (hours) = .00
01145> PERCENTAGE OF TIME OVERFLOWING (%) = .00
01146>
01147> PEAK FLOW REDUCTION [Qout/Qin] (%) = .000
01148> TIME SHIFT OF PEAK FLOW (min) = -61.00
01149> MAXIMUM STORAGE USED (ha.m.) = .5226E-02
01150>
01151> *** WARNING: Outflow volume is less than inflow volume.
01152>
01153> -----
01154> 001:0049-----
01155>
01156> | CALIB STANDHYD | Area (ha)= .44
01157> | 05:C207 DT= 1.00 | Total Imp(%)= 35.00 Dir. Conn.(%)= 25.00
01158>
01159> IMPERVIOUS PERVIOUS (i)
01160> Surface Area (ha)= .15 .25
01161> Dep. Storage (mm)= 2.00 5.00
01162> Average Slope (%)= 1.00 2.00
01163> Length (m)= 90.00 25.00
01164> Mannings n = .013 .250
01165>
01166> Max.eff.Inten.(mm/hr)= 75.61 1.23
01167> over (min) 3.00 34.00
01168> Storage Coeff. (min)= 2.68 (ii) 33.63 (ii)
01169> Unit Hyd. Tpeak (min)= 3.00 34.00
01170> Unit Hyd. peak (cms)= .40 .03
01171>
01172> PEAK FLOW (cms)= .02 .00
01173> TIME TO PEAK (hrs)= 1.02 1.72
01174> RUNOFF VOLUME (mm)= 21.54 1.02
01175> TOTAL RAINFALL (mm)= 23.54 23.54
01176> RUNOFF COEFFICIENT = .92 .04
01177>
01178> (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
01179> CN* = 39.0 Ia = Dep. Storage (Above)
01180> (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
01181> THAN THE STORAGE COEFFICIENT.
01182> (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
01183>
01184> -----
01185> 001:0050-----
01186>
01187> | COMPUTE DUALHYD | Average inlet capacities [CINLET] = .064 (cms)
01188> | 05:C207 DT= 1.00 | Number of inlets in system [NINLET] = 1
01189> | Total minor system capacity = .064 (cms)
01190> | Total major system storage [TMJSTO] = 0. (cu.m.)
01191>
01192> ID: NHYD AREA QPEAK TPEAK R.V. DWF
01193> (ha) (cms) (hrs) (mm) (cms)
01194> TOTAL HYD. 05:C207 .44 .019 1.017 6.147 .000
01195>
01196> MAJOR SYST 09:toET1 .00 .000 .000 .000 .000
01197> MINOR SYST 07:toSWMF .44 .019 1.017 6.147 .000
01198>
01199> NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
01200>
01201> -----
01202> 001:0051-----
01203>
01204> | CALIB STANDHYD | Area (ha)= .93
01205> | 05:C208 DT= 1.00 | Total Imp(%)= 35.00 Dir. Conn.(%)= 25.00
01206>
01207> IMPERVIOUS PERVIOUS (i)
01208> Surface Area (ha)= .33 .60
01209> Dep. Storage (mm)= 2.00 5.00
01210> Average Slope (%)= 1.00 2.00
01211> Length (m)= 90.00 25.00
01212> Mannings n = .013 .250
01213>
01214> Max.eff.Inten.(mm/hr)= 75.61 1.23
01215> over (min) 3.00 34.00
01216> Storage Coeff. (min)= 2.68 (ii) 33.63 (ii)
01217> Unit Hyd. Tpeak (min)= 3.00 34.00

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01218> Unit Hyd. peak (cms)= .40 .03
01219>
01220> PEAK FLOW (cms)= .04 .00
01221> TIME TO PEAK (hrs)= 1.02 1.72
01222> RUNOFF VOLUME (mm)= 21.54 1.02
01223> TOTAL RAINFALL (mm)= 23.54 23.54
01224> RUNOFF COEFFICIENT = .92 .04
01225>
01226> (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
01227> CN* = 39.0 Ia = Dep. Storage (Above)
01228> (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
01229> THAN THE STORAGE COEFFICIENT.
01230> (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
01231>
01232> -----
01233> 001:0052-----
01234>
01235> | COMPUTE DUALHYD | Average inlet capacities [CINLET] = .119 (cms)
01236> | 05:C208 DT= 1.00 | Number of inlets in system [NINLET] = 1
01237> | Total minor system capacity = .119 (cms)
01238> | Total major system storage [TMJSTO] = 0. (cu.m.)
01239>
01240> ID: NHYD AREA QPEAK TPEAK R.V. DWF
01241> (ha) (cms) (hrs) (mm) (cms)
01242> TOTAL HYD. 05:C208 .93 .041 1.017 6.147 .000
01243>
01244> MAJOR SYST 03:toET2 .00 .000 .000 .000 .000
01245> MINOR SYST 01:toSWMF .93 .041 1.017 6.147 .000
01246>
01247> NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
01248>
01249> -----
01250> 001:0053-----
01251>
01252> | ADD HYD (toSWMF1A ) | ID: NHYD AREA QPEAK TPEAK R.V. DWF
01253> (ha) (cms) (hrs) (mm) (cms)
01254> ID1 01:toSWMF6 .93 .041 1.02 6.15 .000
01255> +ID2 02:toSWMF1 .43 .045 1.02 13.73 .000
01256> +ID3 04:toSWMF2 4.00 .211 1.02 7.18 .000
01257> +ID4 06:toSWMF3 1.14 .114 1.02 12.71 .000
01258> +ID5 07:toSWMF5 .44 .019 1.02 6.15 .000
01259> +ID6 08:toSWMF4 .24 .025 .97 19.47 .000
01260>
01261> SUM 05:toSWMF1A 7.18 .456 1.02 8.67 .000
01262>
01263> NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
01264>
01265> -----
01266> 001:0054-----
01267>
01268> | CALIB STANDHYD | Area (ha)= 12.10
01269> | 01:C302 DT= 1.00 | Total Imp(%)= 41.00 Dir. Conn.(%)= 31.00
01270>
01271> IMPERVIOUS PERVIOUS (i)
01272> Surface Area (ha)= 4.96 7.14
01273> Dep. Storage (mm)= 2.00 5.00
01274> Average Slope (%)= 1.00 2.00
01275> Length (m)= 90.00 25.00
01276> Mannings n = .013 .250
01277>
01278> Max.eff.Inten.(mm/hr)= 75.61 1.29
01279> over (min) 3.00 33.00
01280> Storage Coeff. (min)= 2.68 (ii) 33.02 (ii)
01281> Unit Hyd. Tpeak (min)= 3.00 33.00
01282> Unit Hyd. peak (cms)= .40 .03
01283>
01284> PEAK FLOW (cms)= .66 .01
01285> TIME TO PEAK (hrs)= 1.02 1.70
01286> RUNOFF VOLUME (mm)= 21.54 1.03
01287> TOTAL RAINFALL (mm)= 23.54 23.54
01288> RUNOFF COEFFICIENT = .92 .04
01289>
01290> (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
01291> CN* = 39.0 Ia = Dep. Storage (Above)
01292> (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
01293> THAN THE STORAGE COEFFICIENT.
01294> (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
01295>
01296> -----
01297> 001:0055-----
01298>
01299> | CALIB STANDHYD | Area (ha)= 1.29
01300> | 02:C203 DT= 1.00 | Total Imp(%)= 68.00 Dir. Conn.(%)= 66.00
01301>
01302> IMPERVIOUS PERVIOUS (i)
01303> Surface Area (ha)= .88 .41
01304> Dep. Storage (mm)= 2.00 5.00
01305> Average Slope (%)= 1.00 2.00
01306> Length (m)= 100.00 100.00
01307> Mannings n = .013 .250
01308>
01309> Max.eff.Inten.(mm/hr)= 75.61 2.75
01310> over (min) 3.00 34.00
01311> Storage Coeff. (min)= 3.52 (ii) 54.99 (ii)
01312> Unit Hyd. Tpeak (min)= 4.00 55.00
01313> Unit Hyd. peak (cms)= .31 .02
01314>
01315> PEAK FLOW (cms)= .14 .00
01316> TIME TO PEAK (hrs)= 1.03 2.17
01317> RUNOFF VOLUME (mm)= 21.54 .90
01318> TOTAL RAINFALL (mm)= 23.54 23.54
01319> RUNOFF COEFFICIENT = .92 .04
01320>
01321> (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
01322> CN* = 39.0 Ia = Dep. Storage (Above)
01323> (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
01324> THAN THE STORAGE COEFFICIENT.
01325> (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
01326>
01327> -----
01328> 001:0056-----
01329>
01330> | ADD HYD (toSWMF2A ) | ID: NHYD AREA QPEAK TPEAK R.V. DWF
01331> (ha) (cms) (hrs) (mm) (cms)
01332> ID1 01:C302 12.10 .660 1.02 7.39 .000
01333> +ID2 02:C203 1.29 .135 1.03 14.53 .000
01334> +ID3 05:toSWMF1A 7.18 .456 1.02 8.67 .000
01335>
01336> SUM 04:toSWMF2A 20.57 1.251 1.02 8.29 .000
01337>
01338> NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
01339>
01340> -----
01341> 001:0057-----
01342>
01343> | ROUTE RESERVOIR | Requested routing time step = 1.0 min.
01344> | IN>04: (toSWMF) |
01345> | OUT<01: (SWMF) |
01346>
01347> ===== OUTFLOW STORAGE TABLE =====
01348> OUTFLOW STORAGE OUTFLOW STORAGE
01349> (cms) (ha.m.) (cms) (ha.m.)
01350> .000 .0000E+00 | .340 .2740E+00
01351> .011 .2900E+01 | .697 .3140E+00
01352> .015 .6000E+01 | 1.206 .3540E+00
01353> .019 .9200E+01 | 1.880 .3960E+00
01354> .022 .1260E+02 | 2.734 .4380E+00

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01351> .024 .1610E+00 | 3.779 .4820E+00
01352> .027 .1980E+00 | 5.029 .5260E+00
01353> .120 .2360E+00 | .000 .0000E+00
01354>
01355> ROUTING RESULTS AREA QPEAK TPEAK R.V.
01356> ----- (ha) (cms) (hrs) (mm)
01357> INFLOW >04: (toSWMF) 20.57 1.251 1.017 8.286
01358> OUTFLOW<01: (from ) 20.57 .023 3.067 8.286
01359> OVERFLOW<02: (OverQ ) .00 .000 .000 .000
01360>
01361> TOTAL NUMBER OF SIMULATED OVERFLOWS = 0
01362> CUMULATIVE TIME OF OVERFLOWS (hours) = .00
01363> PERCENTAGE OF TIME OVERFLOWING (%) = .00
01364>
01365> PEAK FLOW REDUCTION [Qout/Qin] (%) = 1.873
01366> TIME SHIFT OF PEAK FLOW (min) = 123.00
01367> MAXIMUM STORAGE USED (ha.m.) = .1508E+00
01368>
01370> -----
01371> 001:0058-----
01372>
01373> | CALIB STANDHYD | Area (ha)= 18.54
01374> | 04:EX-2 DT= 1.00 | Total Imp(%)= 35.00 Dir. Conn.(%)= 25.00
01375> -----
01376> IMPERVIOUS PERVIOUS (i)
01377> Surface Area (ha)= 6.49 12.05
01378> Dep. Storage (mm)= 2.00 5.00
01379> Average Slope (%)= 1.00 2.00
01380> Length (m)= 90.00 50.00
01381> Mannings n = .013 .250
01382>
01383> Max.eff.Inten.(mm/hr)= 75.61 3.42
01384> over (min) 3.00 34.00
01385> Storage Coeff. (min)= 2.68 (ii) 33.82 (ii)
01386> Unit Hyd. Tpeak (min)= 3.00 34.00
01387> Unit Hyd. peak (cms)= .40 .03
01388>
01389> PEAK FLOW (cms)= .81 .02 *TOTALS*
01390> TIME TO PEAK (hrs)= 1.02 1.72 .815 (iii)
01391> RUNOFF VOLUME (mm)= 21.54 1.02 1.017
01392> TOTAL RAINFALL (mm)= 23.54 23.54 23.544
01393> RUNOFF COEFFICIENT = .92 .04 .261
01394>
01395> (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
01396> CN* = 39.0 Ia = Dep. Storage (Above)
01397> (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
01398> THAN THE STORAGE COEFFICIENT.
01399> (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
01400>
01401> -----
01402> 001:0059-----
01403>
01404> | CALIB STANDHYD | Area (ha)= .51
01405> | 05:C209 DT= 1.00 | Total Imp(%)= 61.00 Dir. Conn.(%)= 55.00
01406> -----
01407> IMPERVIOUS PERVIOUS (i)
01408> Surface Area (ha)= .31 .20
01409> Dep. Storage (mm)= 2.00 5.00
01410> Average Slope (%)= 1.00 2.00
01411> Length (m)= 90.00 10.00
01412> Mannings n = .013 .250
01413>
01414> Max.eff.Inten.(mm/hr)= 75.61 1.64
01415> over (min) 3.00 19.00
01416> Storage Coeff. (min)= 2.68 (ii) 18.60 (ii)
01417> Unit Hyd. Tpeak (min)= 3.00 19.00
01418> Unit Hyd. peak (cms)= .40 .06
01419>
01420> PEAK FLOW (cms)= .05 .00 .049 (iii)
01421> TIME TO PEAK (hrs)= 1.02 1.42 1.017
01422> RUNOFF VOLUME (mm)= 21.54 1.02 12.306
01423> TOTAL RAINFALL (mm)= 23.54 23.54 23.544
01424> RUNOFF COEFFICIENT = .92 .04 .523
01425>
01426> (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
01427> CN* = 39.0 Ia = Dep. Storage (Above)
01428> (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
01429> THAN THE STORAGE COEFFICIENT.
01430> (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
01431>
01432> -----
01433> 001:0060-----
01434>
01435> | COMPUTE DUALHYD | Average inlet capacities [CINLET] = .109 (cms)
01436> | TotalHyd 05:C209 | Number of inlets in system [NINLET] = 1
01437> | TotalHyd 05:C209 | Total minor system capacity = .109 (cms)
01438> | TotalHyd 05:C209 | Total major system storage [TMJSTO] = 0. (cu.m.)
01439>
01440> ID: NHYD AREA QPEAK TPEAK R.V. DWF
01441> (ha) (cms) (hrs) (mm) (cms)
01442> TOTAL HYD. 05:C209 .51 .049 1.017 12.306 .000
01443> -----
01444> MAJOR SYST 07:toET3 .00 .000 .000 .000 .000
01445> MINOR SYST 06:toWT2 .51 .049 1.017 12.306 .000
01446>
01447> NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
01448>
01449> -----
01450> 001:0061-----
01451>
01452> | ADD HYD (EAST-T ) | ID: NHYD AREA QPEAK TPEAK R.V. DWF
01453> (ha) (cms) (hrs) (mm) (cms)
01454> ID1 01:SWMF 20.57 .023 3.07 8.29 .000
01455> +ID2 02:OverQ .00 .000 .00 .00 .000
01456> +ID3 03:toET2 .00 .000 .00 .00 .000
01457> +ID4 04:EX-2 18.54 .815 1.02 6.15 .000
01458> +ID5 07:toET3 .00 .000 .00 .00 .000
01459> +ID6 09:toET1 .00 .000 .00 .00 .000
01460> =====
01461> SUM 05:EAST-T 39.11 .829 1.02 7.27 .000
01462>
01463> NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
01464>
01465> -----
01466> 001:0062-----
01467>
01468> | CALIB STANDHYD | Area (ha)= .39
01469> | 01:C210 DT= 1.00 | Total Imp(%)= 90.00 Dir. Conn.(%)= 90.00
01470> -----
01471> IMPERVIOUS PERVIOUS (i)
01472> Surface Area (ha)= .35 .04
01473> Dep. Storage (mm)= 2.00 5.00
01474> Average Slope (%)= 1.00 2.00
01475> Length (m)= 90.00 10.00
01476> Mannings n = .013 .250
01477>
01478> Max.eff.Inten.(mm/hr)= 75.61 1.05
01479> over (min) 3.00 22.00
01480> Storage Coeff. (min)= 2.68 (ii) 21.66 (ii)
01481> Unit Hyd. Tpeak (min)= 3.00 22.00
01482> Unit Hyd. peak (cms)= .40 .05
01483>
01484> PEAK FLOW (cms)= .06 .00 *TOTALS*
01485> TIME TO PEAK (hrs)= 1.02 1.50 .062 (iii)
01486>
01487> RUNOFF VOLUME (mm)= 21.54 1.02 1.017
01488> TOTAL RAINFALL (mm)= 23.54 23.54 23.544
01489> RUNOFF COEFFICIENT = .92 .04 .261
01490>
01491> (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
01492> CN* = 39.0 Ia = Dep. Storage (Above)
01493> (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
01494> THAN THE STORAGE COEFFICIENT.
01495> (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
01496>
01497> -----
01498> 001:0063-----
01499>
01500> | CALIB STANDHYD | Area (ha)= .27
01501> | 02:C307 DT= 1.00 | Total Imp(%)= 90.00 Dir. Conn.(%)= 1.00
01502> -----
01503> IMPERVIOUS PERVIOUS (i)
01504> Surface Area (ha)= .24 .03
01505> Dep. Storage (mm)= 2.00 5.00
01506> Average Slope (%)= 1.00 2.00
01507> Length (m)= 90.00 10.00
01508> Mannings n = .013 .250
01509>
01510> Max.eff.Inten.(mm/hr)= 75.61 231.46
01511> over (min) 3.00 5.00
01512> Storage Coeff. (min)= 2.68 (ii) 4.88 (ii)
01513> Unit Hyd. Tpeak (min)= 3.00 5.00
01514> Unit Hyd. peak (cms)= .40 .23
01515>
01516> PEAK FLOW (cms)= .00 .01 .012 (iii)
01517> TIME TO PEAK (hrs)= 1.02 1.07 1.067
01518> RUNOFF VOLUME (mm)= 21.54 8.40 8.534
01519> TOTAL RAINFALL (mm)= 23.54 23.54 23.544
01520> RUNOFF COEFFICIENT = .92 .36 .362
01521>
01522> (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
01523> CN* = 39.0 Ia = Dep. Storage (Above)
01524> (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
01525> THAN THE STORAGE COEFFICIENT.
01526> (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
01527>
01528> -----
01529> 001:0064-----
01530>
01531> | CALIB STANDHYD | Area (ha)= 2.61
01532> | 03:C305 DT= 1.00 | Total Imp(%)= 76.00 Dir. Conn.(%)= 57.00
01533> -----
01534> IMPERVIOUS PERVIOUS (i)
01535> Surface Area (ha)= 1.98 .63
01536> Dep. Storage (mm)= 2.00 5.00
01537> Average Slope (%)= 1.00 2.00
01538> Length (m)= 90.00 25.00
01539> Mannings n = .013 .250
01540>
01541> Max.eff.Inten.(mm/hr)= 75.61 4.45
01542> over (min) 3.00 21.00
01543> Storage Coeff. (min)= 2.68 (ii) 21.16 (ii)
01544> Unit Hyd. Tpeak (min)= 3.00 21.00
01545> Unit Hyd. peak (cms)= .40 .05
01546>
01547> PEAK FLOW (cms)= .26 .00 .262 (iii)
01548> TIME TO PEAK (hrs)= 1.02 1.43 1.017
01549> RUNOFF VOLUME (mm)= 21.54 1.78 13.044
01550> TOTAL RAINFALL (mm)= 23.54 23.54 23.544
01551> RUNOFF COEFFICIENT = .92 .08 .554
01552>
01553> (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
01554> CN* = 39.0 Ia = Dep. Storage (Above)
01555> (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
01556> THAN THE STORAGE COEFFICIENT.
01557> (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
01558>
01559> -----
01560> 001:0065-----
01561>
01562> | COMPUTE DUALHYD | Average inlet capacities [CINLET] = .030 (cms)
01563> | TotalHyd 03:C305 | Number of inlets in system [NINLET] = 1
01564> | TotalHyd 03:C305 | Total minor system capacity = .030 (cms)
01565> | TotalHyd 03:C305 | Total major system storage [TMJSTO] = 730. (cu.m.)
01566>
01567> ID: NHYD AREA QPEAK TPEAK R.V. DWF
01568> (ha) (cms) (hrs) (mm) (cms)
01569> TOTAL HYD. 03:C305 2.61 .262 1.017 13.044 .000
01570> MAJOR SYST 07:toWT3 .00 .000 .000 .000 .000
01571> MINOR SYST 04:toPD 2.61 .030 .800 13.098 .000
01572>
01573> NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
01574>
01575> Maximum MAJOR SYSTEM storage used = 172. (cu.m.)
01576>
01577> -----
01578> 001:0066-----
01579>
01580> | CALIB NASHYD | Area (ha)= 1.77 Curve Number (CN)=36.00
01581> | 03:C306 DT= 1.00 | Ia (mm)= 8.000 # of Linear Res. (N)= 3.00
01582> | 03:C306 DT= 1.00 | U.H. Tp (hrs)= .580
01583>
01584> Unit Hyd Qpeak (cms)= .117
01585>
01586> PEAK FLOW (cms)= .001 (i)
01587> TIME TO PEAK (hrs)= 2.017
01588> RUNOFF VOLUME (mm)= .517
01589> TOTAL RAINFALL (mm)= 23.544
01590> RUNOFF COEFFICIENT = .022
01591>
01592> (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
01593>
01594> -----
01595> 001:0067-----
01596>
01597> | ADD HYD (WEST-T ) | ID: NHYD AREA QPEAK TPEAK R.V. DWF
01598> (ha) (cms) (hrs) (mm) (cms)
01599> ID1 01:C210 .39 .062 1.02 19.47 .000
01600> +ID2 02:C307 .27 .012 1.07 8.53 .000
01601> +ID3 03:C306 1.77 .001 2.02 .52 .000
01602> +ID4 04:toPD 2.61 .030 .80 13.10 .000
01603> +ID5 07:toWT3 .51 .049 1.02 12.31 .000
01604> +ID6 07:toWT3 .00 .000 .00 .00 .000
01605> =====
01606> SUM 08:WEST-T 5.55 .151 1.02 9.24 .000
01607>
01608> NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
01609>
01610> -----
01611> 001:0068-----
01612>
01613> | CALIB NASHYD | Area (ha)= 7.88 Curve Number (CN)=32.00
01614> | 01:C301 DT= 1.00 | Ia (mm)= 8.000 # of Linear Res. (N)= 3.00
01615> | 01:C301 DT= 1.00 | U.H. Tp (hrs)= .510
01616>
01617> Unit Hyd Qpeak (cms)= .590
01618>
01619> PEAK FLOW (cms)= .005 (i)
01620> TIME TO PEAK (hrs)= 1.900

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01621>      RUNOFF VOLUME      (mm)=      .435
01622>      TOTAL RAINFALL      (mm)=    23.544
01623>      RUNOFF COEFFICIENT  =      .018
01624>
01625>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
01626>
01627>-----
01628> 001:0069-----
01629> *#-----
01630> *#-----
01631> *#-----
01632> *#-----
01633> *#-----
01634> *#-----
01635>-----
01636> | CHICAGO STORM | IDF curve parameters: A=1137.257
01637> | Ptotal= 44.36 mm | B= 7.184
01638>-----
01639>      used in: INTENSITY = A / (t + B)^C
01640>
01641>      Duration of storm = 3.00 hrs
01642>      Storm time step = 5.00 min
01643>      Time to peak ratio = .33
01644>
01645>      TIME RAIN | TIME RAIN | TIME RAIN | TIME RAIN
01646>      hrs mm/hr | hrs mm/hr | hrs mm/hr | hrs mm/hr
01647>      .08 3.263 | .83 20.866 | 1.58 10.120 | 2.33 4.397
01648>      .17 3.582 | .92 49.986 | 1.67 8.819 | 2.42 4.145
01649>      .25 3.976 | 1.00 142.775 | 1.75 7.817 | 2.50 3.921
01650>      .33 4.476 | 1.08 64.719 | 1.83 7.022 | 2.58 3.722
01651>      .42 5.130 | 1.17 35.904 | 1.92 6.377 | 2.67 3.543
01652>      .50 6.023 | 1.25 24.205 | 2.00 5.844 | 2.75 3.382
01653>      .58 7.313 | 1.33 18.064 | 2.08 5.395 | 2.83 3.235
01654>      .67 9.334 | 1.42 14.343 | 2.17 5.013 | 2.92 3.102
01655>      .75 12.924 | 1.50 11.871 | 2.25 4.684 | 3.00 2.979
01656>
01657>-----
01658> 001:0070-----
01659> *#-----
01660> *#-----
01661> *#-----
01662> *#-----
01663> *#-----
01664>-----
01665> | CALIB STANDHYD | Area (ha)= 18.54
01666> | 01:EX-1 DT= 1.00 | Total Imp(%)= 35.00 Dir. Conn.(%)= 25.00
01667>-----
01668>      IMPERVIOUS PERVIOUS (i)
01669>      Surface Area (ha)= 6.49 12.05
01670>      Dep. Storage (mm)= 2.00 5.00
01671>      Average Slope (%)= 1.00 2.00
01672>      Length (m)= 90.00 50.00
01673>      Mannings n = .013 .250
01674>
01675>      Max.eff.Inten.(mm/hr)= 142.78 6.09
01676>      over (min) 2.00 27.00
01677>      Storage Coeff. (min)= 2.08 (ii) 26.80 (ii)
01678>      Unit Hyd. Tpeak (min)= 2.00 27.00
01679>      Unit Hyd. peak (cms)= .54 .04
01680>
01681>      PEAK FLOW (cms)= 1.69 .12 *TOTALS*
01682>      TIME TO PEAK (hrs)= 1.00 1.53 1.694 (iii)
01683>      RUNOFF VOLUME (mm)= 42.36 4.17 13.715
01684>      TOTAL RAINFALL (mm)= 44.36 44.36 44.356
01685>      RUNOFF COEFFICIENT = .95 .09 .309
01686>
01687>      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
01688>      CN* = 39.0 Ia = Dep. Storage (Above)
01689>      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
01690>      THAN THE STORAGE COEFFICIENT.
01691>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
01692>
01693>-----
01694> 001:0071-----
01695>-----
01696> | CALIB NASHYD | Area (ha)= 9.06 Curve Number (CN)=40.00
01697> | 02:C101 DT= 1.00 | Ia (mm)= 8.000 # of Linear Res. (N)= 3.00
01698> | U.H. Tp (hrs)= .510
01699>-----
01700>      Unit Hyd Qpeak (cms)= .679
01701>
01702>      PEAK FLOW (cms)= .050 (i)
01703>      TIME TO PEAK (hrs)= 1.767
01704>      RUNOFF VOLUME (mm)= 3.167
01705>      TOTAL RAINFALL (mm)= 44.356
01706>      RUNOFF COEFFICIENT = .071
01707>
01708>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
01709>
01710>-----
01711> 001:0072-----
01712>-----
01713> | CALIB NASHYD | Area (ha)= 13.09 Curve Number (CN)=47.00
01714> | 03:C102 DT= 1.00 | Ia (mm)= 8.000 # of Linear Res. (N)= 3.00
01715> | U.H. Tp (hrs)= .850
01716>-----
01717>      Unit Hyd Qpeak (cms)= .588
01718>
01719>      PEAK FLOW (cms)= .068 (i)
01720>      TIME TO PEAK (hrs)= 2.233
01721>      RUNOFF VOLUME (mm)= 4.095
01722>      TOTAL RAINFALL (mm)= 44.356
01723>      RUNOFF COEFFICIENT = .092
01724>
01725>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
01726>
01727>-----
01728> 001:0073-----
01729>-----
01730> | CALIB STANDHYD | Area (ha)= .61
01731> | 04:C108 DT= 1.00 | Total Imp(%)= 75.00 Dir. Conn.(%)= 1.00
01732>-----
01733>      IMPERVIOUS PERVIOUS (i)
01734>      Surface Area (ha)= .46 .15
01735>      Dep. Storage (mm)= 2.00 5.00
01736>      Average Slope (%)= 1.00 2.00
01737>      Length (m)= 90.00 40.00
01738>      Mannings n = .013 .250
01739>
01740>      Max.eff.Inten.(mm/hr)= 142.78 115.78
01741>      over (min) 2.00 9.00
01742>      Storage Coeff. (min)= 2.08 (ii) 8.74 (ii)
01743>      Unit Hyd. Tpeak (min)= 2.00 9.00
01744>      Unit Hyd. peak (cms)= .54 .13
01745>
01746>      PEAK FLOW (cms)= .00 .03 *TOTALS*
01747>      TIME TO PEAK (hrs)= 1.00 1.15 .032 (iii)
01748>      RUNOFF VOLUME (mm)= 42.36 12.95 13.243
01749>      TOTAL RAINFALL (mm)= 44.36 44.36 44.356
01750>      RUNOFF COEFFICIENT = .95 .29 .299
01751>
01752>      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
01753>      CN* = 39.0 Ia = Dep. Storage (Above)
01754>      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
01755>      THAN THE STORAGE COEFFICIENT.

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01756>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
01757>
01758>-----
01759> 001:0074-----
01760>-----
01761> | ADD HYD (CENTER-W ) | ID: NHYD AREA QPEAK TPEAK R.V. DWF
01762> | (ha) (cms) (hrs) (mm) (cms)
01763> | ID1 03:C102 13.09 .068 2.23 4.09 .000
01764> | +ID2 04:C108 .61 .032 1.15 13.24 .000
01765> |=====
01766> | SUM 05:CENTER-W 13.70 .073 2.18 4.50 .000
01767>
01768>      NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
01769>
01770>-----
01771> 001:0075-----
01772>-----
01773> | CALIB NASHYD | Area (ha)= 9.17 Curve Number (CN)=64.00
01774> | 03:C104 DT= 1.00 | Ia (mm)= 8.000 # of Linear Res. (N)= 3.00
01775> | U.H. Tp (hrs)= .590
01776>
01777>      Unit Hyd Qpeak (cms)= .594
01778>
01779>      PEAK FLOW (cms)= .110 (i)
01780>      TIME TO PEAK (hrs)= 1.867
01781>      RUNOFF VOLUME (mm)= 7.375
01782>      TOTAL RAINFALL (mm)= 44.356
01783>      RUNOFF COEFFICIENT = .166
01784>
01785>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
01786>
01787>-----
01788>-----
01789>-----
01790> | CALIB STANDHYD | Area (ha)= 1.63
01791> | 04:C105 DT= 1.00 | Total Imp(%)= 56.00 Dir. Conn.(%)= 50.00
01792>-----
01793>      IMPERVIOUS PERVIOUS (i)
01794>      Surface Area (ha)= .91 .72
01795>      Dep. Storage (mm)= 2.00 5.00
01796>      Average Slope (%)= 1.00 2.00
01797>      Length (m)= 90.00 40.00
01798>      Mannings n = .013 .250
01799>
01800>      Max.eff.Inten.(mm/hr)= 142.78 6.43
01801>      over (min) 2.00 23.00
01802>      Storage Coeff. (min)= 2.08 (ii) 23.23 (ii)
01803>      Unit Hyd. Tpeak (min)= 2.00 23.00
01804>      Unit Hyd. peak (cms)= .54 .05
01805>
01806>      PEAK FLOW (cms)= .30 .01 *TOTALS*
01807>      TIME TO PEAK (hrs)= 1.00 1.47 .297 (iii)
01808>      RUNOFF VOLUME (mm)= 42.36 4.10 13.715
01809>      TOTAL RAINFALL (mm)= 44.36 44.36 44.356
01810>      RUNOFF COEFFICIENT = .95 .09 .309
01811>
01812>      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
01813>      CN* = 39.0 Ia = Dep. Storage (Above)
01814>      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
01815>      THAN THE STORAGE COEFFICIENT.
01816>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
01817>
01818>-----
01819> 001:0077-----
01820>-----
01821> | ADD HYD (EAST-T ) | ID: NHYD AREA QPEAK TPEAK R.V. DWF
01822> | (ha) (cms) (hrs) (mm) (cms)
01823> | ID1 01:EX-1 18.54 1.694 1.00 13.71 .000
01824> | +ID2 03:C104 9.17 .110 1.87 7.37 .000
01825> | +ID3 04:C105 1.63 .297 1.00 23.23 .000
01826> |=====
01827> | SUM 06:EAST-T 29.34 1.992 1.00 12.26 .000
01828>
01829>      NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
01830>
01831>-----
01832> 001:0078-----
01833>-----
01834> | CALIB NASHYD | Area (ha)= 8.73 Curve Number (CN)=62.00
01835> | 01:C103 DT= 1.00 | Ia (mm)= 8.000 # of Linear Res. (N)= 3.00
01836> | U.H. Tp (hrs)= .540
01837>
01838>      Unit Hyd Qpeak (cms)= .617
01839>
01840>      PEAK FLOW (cms)= .103 (i)
01841>      TIME TO PEAK (hrs)= 1.783
01842>      RUNOFF VOLUME (mm)= 6.883
01843>      TOTAL RAINFALL (mm)= 44.356
01844>      RUNOFF COEFFICIENT = .155
01845>
01846>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
01847>
01848>-----
01849> 001:0079-----
01850>-----
01851> | CALIB STANDHYD | Area (ha)= .47
01852> | 03:C106 DT= 1.00 | Total Imp(%)= 75.00 Dir. Conn.(%)= 1.00
01853>-----
01854>      IMPERVIOUS PERVIOUS (i)
01855>      Surface Area (ha)= .35 .12
01856>      Dep. Storage (mm)= 2.00 5.00
01857>      Average Slope (%)= 1.00 2.00
01858>      Length (m)= 90.00 40.00
01859>      Mannings n = .013 .250
01860>
01861>      Max.eff.Inten.(mm/hr)= 142.78 115.78
01862>      over (min) 2.00 9.00
01863>      Storage Coeff. (min)= 2.08 (ii) 8.74 (ii)
01864>      Unit Hyd. Tpeak (min)= 2.00 9.00
01865>      Unit Hyd. peak (cms)= .54 .13
01866>
01867>      PEAK FLOW (cms)= .00 .02 *TOTALS*
01868>      TIME TO PEAK (hrs)= 1.00 1.15 .025 (iii)
01869>      RUNOFF VOLUME (mm)= 42.36 12.95 13.243
01870>      TOTAL RAINFALL (mm)= 44.36 44.36 44.356
01871>      RUNOFF COEFFICIENT = .95 .29 .299
01872>
01873>      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
01874>      CN* = 39.0 Ia = Dep. Storage (Above)
01875>      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
01876>      THAN THE STORAGE COEFFICIENT.
01877>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
01878>
01879>-----
01880> 001:0080-----
01881>-----
01882> | CALIB STANDHYD | Area (ha)= .54
01883> | 04:C107 DT= 1.00 | Total Imp(%)= 75.00 Dir. Conn.(%)= 1.00
01884>-----
01885>      IMPERVIOUS PERVIOUS (i)
01886>      Surface Area (ha)= .41 .14
01887>      Dep. Storage (mm)= 2.00 5.00
01888>      Average Slope (%)= 1.00 2.00
01889>      Length (m)= 90.00 40.00
01890>      Mannings n = .013 .250

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01891>
01892> Max.eff.Inten.(mm/hr)= 142.78 115.78
01893> over (min) 2.00
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>
01898> *TOTALS*
01899> PEAK FLOW (cms)= .00 .03
01900> TIME TO PEAK (hrs)= 1.00 1.15
01901> RUNOFF VOLUME (mm)= 42.36 12.95
01902> TOTAL RAINFALL (mm)= 44.36 44.36
01903> RUNOFF COEFFICIENT = .95 .29
01904>
01905> (i) CN PROCEDURE SELECTED FOR PVIOUS LOSSES:
01906> CN* = 39.0 Ia = Dep. Storage (Above)
01907> (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
01908> THAN THE STORAGE COEFFICIENT.
01909> (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
01910>
01911> 001:0081-----
01912>
01913> | ADD HYD (WEST-T ) | ID: NHYD AREA (ha) QPEAK (cms) TPEAK (hrs) R.V. (mm) DWF (cms)
01914> |-----|-----|-----|-----|-----|-----|
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>
01942> *TOTALS*
01943> PEAK FLOW (cms)= .00 .01
01944> TIME TO PEAK (hrs)= 1.00 1.15
01945> RUNOFF VOLUME (mm)= 42.36 12.95
01946> TOTAL RAINFALL (mm)= 44.36 44.36
01947> RUNOFF COEFFICIENT = .95 .29
01948>
01949> (i) CN PROCEDURE SELECTED FOR PVIOUS LOSSES:
01950> CN* = 39.0 Ia = Dep. Storage (Above)
01951> (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
01952> THAN THE STORAGE COEFFICIENT.
01953> (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
01954>
01955> 001:0083-----
01956> *-----*
01957> *#-----*
01958> *#-----*
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>
01978> *TOTALS*
01979> PEAK FLOW (cms)= 1.06 .07
01980> TIME TO PEAK (hrs)= 1.00 1.35
01981> RUNOFF VOLUME (mm)= 42.36 4.22
01982> TOTAL RAINFALL (mm)= 44.36 44.36
01983> RUNOFF COEFFICIENT = .95 .10
01984>
01985> (i) CN PROCEDURE SELECTED FOR PVIOUS LOSSES:
01986> CN* = 39.0 Ia = Dep. Storage (Above)
01987> (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
01988> THAN THE STORAGE COEFFICIENT.
01989> (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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>
02009> *TOTALS*
02010> PEAK FLOW (cms)= .04 .00
02011> TIME TO PEAK (hrs)= 1.00 1.35
02012> RUNOFF VOLUME (mm)= 42.36 4.17
02013> TOTAL RAINFALL (mm)= 44.36 44.36
02014> RUNOFF COEFFICIENT = .95 .309
02015>
02016> (i) CN PROCEDURE SELECTED FOR PVIOUS LOSSES:
02017> CN* = 39.0 Ia = Dep. Storage (Above)
02018> (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
02019> THAN THE STORAGE COEFFICIENT.
02020> (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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

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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:toSWF1 .000 .000 1.000 .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>
02057> *TOTALS*
02058> PEAK FLOW (cms)= .08 .01
02059> TIME TO PEAK (hrs)= 1.00 1.35
02060> RUNOFF VOLUME (mm)= 42.36 4.17
02061> TOTAL RAINFALL (mm)= 44.36 44.36
02062> RUNOFF COEFFICIENT = .95 .309
02063>
02064> (i) CN PROCEDURE SELECTED FOR PVIOUS LOSSES:
02065> CN* = 39.0 Ia = Dep. Storage (Above)
02066> (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
02067> THAN THE STORAGE COEFFICIENT.
02068> (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
02069>
02070> 001:0087-----
02071>
02072> | COMPUTE DUALHYD | Average inlet capacities [CINLET] = .119 (cms)
02073> | TotalHyd 02:C208 | Number of inlets in system [NINLET] = .119 (cms)
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 12.88
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>
02105> *TOTALS*
02106> PEAK FLOW (cms)= .28 .00
02107> TIME TO PEAK (hrs)= 1.02 1.65
02108> RUNOFF VOLUME (mm)= 42.36 3.80
02109> TOTAL RAINFALL (mm)= 44.36 44.36
02110> RUNOFF COEFFICIENT = .95 .659
02111>
02112> (i) CN PROCEDURE SELECTED FOR PVIOUS LOSSES:
02113> CN* = 39.0 Ia = Dep. Storage (Above)
02114> (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
02115> THAN THE STORAGE COEFFICIENT.
02116> (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
02117>
02118>
02119>
02120> | ADD HYD (toSWMF ) | ID: NHYD AREA QPEAK TPEAK R.V. DWF
02121> |-----|-----|-----|-----|-----|-----|
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 ) |
02137>
02138> ===== OUTFLOW STORAGE TABLE =====
02139> OUTFLOW STORAGE | OUTFLOW STORAGE
02140> (cms) (ha.m.) | (cms) (ha.m.)
02141> .000 .0000E+00 | .340 .2740E+00
02142> .011 .2900E-01 | .697 .3140E+00
02143> .015 .6000E-01 | 1.206 .3540E+00
02144> .019 .9200E-01 | 1.880 .3960E+00
02145> .022 .1260E+00 | 2.734 .4380E+00
02146> .024 .1610E+00 | 3.779 .4820E+00
02147> .027 .1980E+00 | 5.029 .5260E+00
02148> .120 .2360E+00 | .000 .0000E+00
02149>
02150> ROUTING RESULTS AREA QPEAK TPEAK R.V.
02151> (ha) (cms) (hrs) (mm)
02152> INFLOW >07: (toSWMF) 12.32 1.468 1.000 16.866
02153> OUTFLOW<01: (SWMF ) 12.32 .026 3.067 16.866
02154> OVERFLOW<02: (OverQ) .00 .000 .000 .000
02155>
02156> TOTAL NUMBER OF SIMULATED OVERFLOWS = 0
02157> CUMULATIVE TIME OF OVERFLOWS (hours) = .00
02158> PERCENTAGE OF TIME OVERFLOWING (%) = .00
02159>
02160> PEAK FLOW REDUCTION [Qout/Qin] (%) = 1.777
02161> TIME SHIFT OF PEAK FLOW (min) = 124.00

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02161> MAXIMUM STORAGE USED (ha.m.)=.1868E+00
02162>
02163>
02164> 001:0091-----
02165>
02166> | CALIB STANDHYD | Area (ha)= 18.54
02167> | 03:EX-2 DT= 1.00 | Total Imp (%)= 35.00 Dir. Conn. (%)= 25.00
02168>
02169> IMPERVIOUS PERVIOUS (i)
02170> Surface Area (ha)= 6.49 12.05
02171> Dep. Storage (mm)= 2.00 5.00
02172> Average Slope (%)= 1.00 2.00
02173> Length (m)= 90.00 50.00
02174> Mannings n = .013 .250
02175>
02176> Max.eff.Inten.(mm/hr)= 142.78 6.09
02177> over (min) 2.00 27.00
02178> Storage Coeff. (min)= 2.08 (ii) 26.80 (ii)
02179> Unit Hyd. Tpeak (min)= 2.00 27.00
02180> Unit Hyd. peak (cms)= .54 .04
02181>
02182> PEAK FLOW (cms)= 1.69 .12 1.694 (iii)
02183> TIME TO PEAK (hrs)= 1.00 1.53 1.000
02184> RUNOFF VOLUME (mm)= 42.36 4.17 13.715
02185> TOTAL RAINFALL (mm)= 44.36 44.36 44.356
02186> RUNOFF COEFFICIENT = .95 .09 .309
02187>
02188> (i) CN PROCEDURE SELECTED FOR PVIOUS LOSSES:
02189> CN* = 39.0 Ia = Dep. Storage (Above)
02190> (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
02191> THAN THE STORAGE COEFFICIENT.
02192> (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
02193>
02194>
02195> 001:0092-----
02196>
02197> | CALIB STANDHYD | Area (ha)= .51
02198> | 05:C209 DT= 1.00 | Total Imp (%)= 61.00 Dir. Conn. (%)= 55.00
02199>
02200> IMPERVIOUS PERVIOUS (i)
02201> Surface Area (ha)= .31 .20
02202> Dep. Storage (mm)= 2.00 5.00
02203> Average Slope (%)= 1.00 2.00
02204> Length (m)= 90.00 10.00
02205> Mannings n = .013 .250
02206>
02207> Max.eff.Inten.(mm/hr)= 142.78 9.65
02208> over (min) 2.00 10.00
02209> Storage Coeff. (min)= 2.08 (ii) 9.91 (ii)
02210> Unit Hyd. Tpeak (min)= 2.00 10.00
02211> Unit Hyd. peak (cms)= .54 .11
02212>
02213> PEAK FLOW (cms)= .10 .00
02214> TIME TO PEAK (hrs)= 1.00 1.20 1.000
02215> RUNOFF VOLUME (mm)= 42.36 4.17 25.171
02216> TOTAL RAINFALL (mm)= 44.36 44.36 44.356
02217> RUNOFF COEFFICIENT = .95 .09 .567
02218>
02219> (i) CN PROCEDURE SELECTED FOR PVIOUS LOSSES:
02220> CN* = 39.0 Ia = Dep. Storage (Above)
02221> (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
02222> THAN THE STORAGE COEFFICIENT.
02223> (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
02224>
02225>
02226> 001:0093-----
02227>
02228> | COMPUTE DUALHYD | Average inlet capacities [CINLET] = .109 (cms)
02229> | TotalHyd 05:C209 | Number of inlets in system [NINLET] = 1
02230> | | Total minor system capacity = .109 (cms)
02231> | | Total major system capacity [TMJSTO] = 0. (cu.m.)
02232>
02233> ID: NHYD AREA QPEAK TPEAK R.V. DWF
02234> (ha) (cms) (hrs) (mm) (cms)
02235> TOTAL HYD. 05:C209 .51 .103 1.000 25.171 .000
02236>
02237> MAJOR SYST 08:toET3 .00 .000 .000 .000 .000
02238> MINOR SYST 07:toWT1 .51 .103 1.000 25.171 .000
02239>
02240> NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
02241>
02242>
02243> 001:0094-----
02244>
02245> | ADD HYD (EAST-T ) | ID: NHYD AREA QPEAK TPEAK R.V. DWF
02246> (ha) (cms) (hrs) (mm) (cms)
02247> ID1 01:SWMP 12.32 .026 3.07 16.87 .000
02248> +ID2 02:OverQ .00 .000 .00 .00 .000
02249> +ID3 03:EX-2 18.54 1.694 1.00 13.71 .000
02250> +ID4 04:toET1 .00 .000 .00 .00 .000
02251> +ID5 06:toET2 .00 .000 .00 .00 .000
02252> +ID6 08:toET3 .00 .000 .00 .00 .000
02253>
02254> SUM 05:EAST-T 30.86 1.708 1.00 14.97 .000
02255>
02256> NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
02257>
02258>
02259> 001:0095-----
02260>
02261> | CALIB STANDHYD | Area (ha)= .39
02262> | 01:C210 DT= 1.00 | Total Imp (%)= 90.00 Dir. Conn. (%)= 90.00
02263>
02264> IMPERVIOUS PERVIOUS (i)
02265> Surface Area (ha)= .35 .04
02266> Dep. Storage (mm)= 2.00 5.00
02267> Average Slope (%)= 1.00 2.00
02268> Length (m)= 90.00 10.00
02269> Mannings n = .013 .250
02270>
02271> Max.eff.Inten.(mm/hr)= 142.78 6.72
02272> over (min) 2.00 11.00
02273> Storage Coeff. (min)= 2.08 (ii) 11.13 (ii)
02274> Unit Hyd. Tpeak (min)= 2.00 11.00
02275> Unit Hyd. peak (cms)= .54 .10
02276>
02277> PEAK FLOW (cms)= .13 .00 .128 (iii)
02278> TIME TO PEAK (hrs)= 1.00 1.23 1.000
02279> RUNOFF VOLUME (mm)= 42.36 3.55 38.475
02280> TOTAL RAINFALL (mm)= 44.36 44.36 44.356
02281> RUNOFF COEFFICIENT = .95 .08 .867
02282>
02283> (i) CN PROCEDURE SELECTED FOR PVIOUS LOSSES:
02284> CN* = 39.0 Ia = Dep. Storage (Above)
02285> (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
02286> THAN THE STORAGE COEFFICIENT.
02287> (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
02288>
02289>
02290> 001:0096-----
02291>
02292> | CALIB NASHYD | Area (ha)= 7.98 Curve Number (CN)=62.00
02293> | 02:C206 DT= 1.00 | Ia (mm)= 8.000 # of Linear Res. (N)= 3.00
02294> | U.H. Tp(hrs)= .540
02295>

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02296> Unit Hyd Qpeak (cms)= .564
02297>
02298> PEAK FLOW (cms)= .094 (i)
02299> TIME TO PEAK (hrs)= 1.783
02300> RUNOFF VOLUME (mm)= 6.883
02301> TOTAL RAINFALL (mm)= 44.356
02302> RUNOFF COEFFICIENT = .155
02303>
02304> (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
02305>
02306>
02307> 001:0097-----
02308>
02309> | CALIB STANDHYD | Area (ha)= .54
02310> | 03:C107 DT= 1.00 | Total Imp (%)= 75.00 Dir. Conn. (%)= 1.00
02311>
02312> IMPERVIOUS PERVIOUS (i)
02313> Surface Area (ha)= .41 .14
02314> Dep. Storage (mm)= 2.00 5.00
02315> Average Slope (%)= 1.00 2.00
02316> Length (m)= 90.00 40.00
02317> Mannings n = .013 .250
02318>
02319> Max.eff.Inten.(mm/hr)= 142.78 115.78
02320> over (min) 2.00 9.00
02321> Storage Coeff. (min)= 2.08 (ii) 8.74 (ii)
02322> Unit Hyd. Tpeak (min)= 2.00 9.00
02323> Unit Hyd. peak (cms)= .54 .13
02324>
02325> PEAK FLOW (cms)= .00 .03 .028 (iii)
02326> TIME TO PEAK (hrs)= 1.00 1.15 1.150
02327> RUNOFF VOLUME (mm)= 42.36 12.95 13.243
02328> TOTAL RAINFALL (mm)= 44.36 44.36 44.356
02329> RUNOFF COEFFICIENT = .95 .29 .299
02330>
02331> (i) CN PROCEDURE SELECTED FOR PVIOUS LOSSES:
02332> CN* = 39.0 Ia = Dep. Storage (Above)
02333> (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
02334> THAN THE STORAGE COEFFICIENT.
02335> (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
02336>
02337>
02338> 001:0098-----
02339>
02340> | ADD HYD (WEST-T ) | ID: NHYD AREA QPEAK TPEAK R.V. DWF
02341> (ha) (cms) (hrs) (mm) (cms)
02342> ID1 01:C210 .39 .128 1.00 38.48 .000
02343> +ID2 02:C206 7.98 .094 1.78 6.88 .000
02344> +ID3 03:C107 .54 .028 1.15 13.24 .000
02345> +ID4 07:toWT1 .51 .103 1.00 25.17 .000
02346>
02347> SUM 04:WEST-T 9.42 .244 1.00 9.55 .000
02348>
02349> NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
02350>
02351>
02352> 001:0099-----
02353>
02354> | CALIB NASHYD | Area (ha)= 6.96 Curve Number (CN)=32.00
02355> | 01:C201 DT= 1.00 | Ia (mm)= 8.000 # of Linear Res. (N)= 3.00
02356> | U.H. Tp(hrs)= .510
02357>
02358> Unit Hyd Qpeak (cms)= .521
02359>
02360> PEAK FLOW (cms)= .028 (i)
02361> TIME TO PEAK (hrs)= 1.767
02362> RUNOFF VOLUME (mm)= 2.294
02363> TOTAL RAINFALL (mm)= 44.356
02364> RUNOFF COEFFICIENT = .052
02365>
02366> (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
02367>
02368>
02369> 001:0100-----
02370>
02371> | CALIB NASHYD | Area (ha)= 2.04 Curve Number (CN)=55.00
02372> | 02:C204 DT= 1.00 | Ia (mm)= 8.000 # of Linear Res. (N)= 3.00
02373> | U.H. Tp(hrs)= .480
02374>
02375> Unit Hyd Qpeak (cms)= .162
02376>
02377> PEAK FLOW (cms)= .020 (i)
02378> TIME TO PEAK (hrs)= 1.717
02379> RUNOFF VOLUME (mm)= 5.413
02380> TOTAL RAINFALL (mm)= 44.356
02381> RUNOFF COEFFICIENT = .122
02382>
02383> (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
02384>
02385>
02386> 001:0101-----
02387>
02388> | ADD HYD (NORTH-W ) | ID: NHYD AREA QPEAK TPEAK R.V. DWF
02389> (ha) (cms) (hrs) (mm) (cms)
02390> ID1 01:C201 6.96 .028 1.77 2.29 .000
02391> +ID2 02:C204 2.04 .020 1.72 5.41 .000
02392>
02393> SUM 03:NORTH-W 9.00 .048 1.75 3.00 .000
02394>
02395> NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
02396>
02397>
02398> 001:0102-----
02399>
02400> | CALIB NASHYD | Area (ha)= 11.96 Curve Number (CN)=44.00
02401> | 01:C205 DT= 1.00 | Ia (mm)= 8.000 # of Linear Res. (N)= 3.00
02402> | U.H. Tp(hrs)= .870
02403>
02404> Unit Hyd Qpeak (cms)= .525
02405>
02406> PEAK FLOW (cms)= .055 (i)
02407> TIME TO PEAK (hrs)= 2.267
02408> RUNOFF VOLUME (mm)= 3.675
02409> TOTAL RAINFALL (mm)= 44.356
02410> RUNOFF COEFFICIENT = .083
02411>
02412> (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
02413>
02414>
02415> 001:0103-----
02416>
02417> | CALIB STANDHYD | Area (ha)= .61
02418> | 02:C108 DT= 1.00 | Total Imp (%)= 75.00 Dir. Conn. (%)= 1.00
02419>
02420> IMPERVIOUS PERVIOUS (i)
02421> Surface Area (ha)= .46 .15
02422> Dep. Storage (mm)= 2.00 5.00
02423> Average Slope (%)= 1.00 2.00
02424> Length (m)= 90.00 40.00
02425> Mannings n = .013 .250
02426>
02427> Max.eff.Inten.(mm/hr)= 142.78 115.78
02428> over (min) 2.00 9.00
02429> Storage Coeff. (min)= 2.08 (ii) 8.74 (ii)
02430> Unit Hyd. Tpeak (min)= 2.00 9.00

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02431> Unit Hyd. peak (cms)= .54 .13
02432>
02433> PEAK FLOW (cms)= .00 .03 *TOTALS*
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 PVIOUS 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> *# PROPOSED ULTIMATE DEVELOPMENT CONDITIONS
02461> *#-----
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 PVIOUS (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>
02481> PEAK FLOW (cms)= .09 .00 *TOTALS*
02482> TIME TO PEAK (hrs)= 1.00 1.22 .095 (iii)
02483> RUNOFF VOLUME (mm)= 42.36 7.28 1.000
02484> TOTAL RAINFALL (mm)= 44.36 44.36 44.356
02485> RUNOFF COEFFICIENT = .95 .16 .639
02486>
02487> (i) CN PROCEDURE SELECTED FOR PVIOUS 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 PVIOUS (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>
02529> PEAK FLOW (cms)= .44 .03 *TOTALS*
02530> TIME TO PEAK (hrs)= 1.00 1.35 .440 (iii)
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 PVIOUS 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 PVIOUS (i)
02565> Surface Area (ha)= .71 .43

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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>
02577> PEAK FLOW (cms)= .24 .01 *TOTALS*
02578> TIME TO PEAK (hrs)= 1.00 1.35 .237 (iii)
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 PVIOUS 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 PVIOUS (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>
02625> PEAK FLOW (cms)= .09 .00 *TOTALS*
02626> TIME TO PEAK (hrs)= 1.00 1.53 .088 (iii)
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 PVIOUS 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 Tpeak (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) |
02692> -----
02693> OUTFLOW STORAGE | OUTFLOW STORAGE
02694> (cms) (ha.m.) | (cms) (ha.m.)
02695> .000 .0000E+00 | .222 .6400E+00
02696> .000 .3700E+00 | .000 .0000E+00
02697>
02698> ROUTING RESULTS AREA QPEAK TPEAK R.V.
02699> (ha) (cms) (hrs) (mm)
02700> INFLOW >10: (CENTER) 9.97 .082 1.000 2.786
02700> OUTFLOW<01: (CW-SSD) 9.97 .000 .000 .000

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02701> OVERFLOW<03: (toWTL ) .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>
02732> PEAK FLOW (cms)= .04 .00 *TOTALS*
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> 001:0117-----
02745>
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) (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> 001:0118-----
02762>
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)= 2.00 5.00
02769> Dep. Storage (mm)= 1.00 2.00
02770> Average Slope (%)= 90.00 25.00
02771> Length (m)= .013 .250
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>
02780> PEAK FLOW (cms)= .08 .01 *TOTALS*
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> 001:0119-----
02793>
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) (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> 001:0120-----
02810>
02811>
02812> | ADD HYD (toSWMF1A ) | ID: NHYD AREA QPEAK TPEAK R.V. DWF
02813> (ha) (cms) (hrs) (mm) (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> 001:0121-----
02826>
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

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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>
02844> PEAK FLOW (cms)= 1.37 .09 *TOTALS*
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> 001:0122-----
02857>
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)= 2.00 5.00
02864> Dep. Storage (mm)= 1.00 2.00
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>
02875> PEAK FLOW (cms)= .28 .00 *TOTALS*
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> 001:0123-----
02888>
02889>
02890> | ADD HYD (toSWMF2A ) | ID: NHYD AREA QPEAK TPEAK R.V. DWF
02891> (ha) (cms) (hrs) (mm) (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> 001:0124-----
02901>
02902>
02903> ROUTE RESERVOIR Requested routing time step = 1.0 min.
02904> | IN>04: (toSWMF ) |
02905> | OUT<01: (SWMF ) | =====
02906> OUTFLOW STORAGE TABLE =====
02907> OUTFLOW STORAGE OUTFLOW STORAGE
02908> (cms) (ha.m.) (cms) (ha.m.)
02909> .000 .000E+00 | .340 .2740E+00
02910> .011 .2900E-01 | .697 .3140E+00
02911> .015 .6000E-01 | 1.206 .3540E+00
02912> .019 .9200E-01 | 1.880 .3960E+00
02913> .022 .1260E+00 | 2.734 .4380E+00
02914> .024 .1610E+00 | 3.779 .4820E+00
02915> .027 .1980E+00 | 5.029 .5260E+00
02916> .120 .2360E+00 | .000 .0000E+00
02917>
02918> ROUTING RESULTS AREA QPEAK TPEAK R.V.
02919> (ha) (cms) (hrs) (mm)
02920> INFLOW >04: (toSWMF) 20.52 2.560 1.000 17.661
02921> OUTFLOW<01: (SWMF ) 20.52 .239 1.800 17.661
02922> OVERFLOW<02: (OverQ) .00 .000 .000 .000
02923>
02924> TOTAL NUMBER OF SIMULATED OVERFLOWS = 0
02925> CUMULATIVE TIME OF OVERFLOWS (hours)= .00
02926> PERCENTAGE OF TIME OVERFLOWING (%) = .00
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> 001:0125-----
02933>
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>
02951> PEAK FLOW (cms)= 1.69 .12 *TOTALS*
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> 001:0126-----
02964>
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) 9.31 (ii)
02979> Unit Hyd. Tpeak (min)= 2.00 10.00
02980> Unit Hyd. peak (cms)= .54 .11
02981>
02982> PEAK FLOW (cms)= .10 .00
02983> TIME TO PEAK (hrs)= 1.00 1.23
02984> RUNOFF VOLUME (mm)= 42.36 4.17
02985> TOTAL RAINFALL (mm)= 44.36 44.36
02986> RUNOFF COEFFICIENT = .95 .09
02987>
02988> (i) CN PROCEDURE SELECTED FOR PVIOUS 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> (ha) (cms) (hrs) (mm) (cms)
03016> ID1 01:SWMP 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>
03046> PEAK FLOW (cms)= .13 .00
03047> TIME TO PEAK (hrs)= 1.00 1.23
03048> RUNOFF VOLUME (mm)= 42.36 3.54
03049> TOTAL RAINFALL (mm)= 44.36 44.36
03050> RUNOFF COEFFICIENT = .95 .08
03051>
03052> (i) CN PROCEDURE SELECTED FOR PVIOUS 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>
03077> PEAK FLOW (cms)= .00 .04
03078> TIME TO PEAK (hrs)= 1.00 1.03
03079> RUNOFF VOLUME (mm)= 42.36 22.90
03080> TOTAL RAINFALL (mm)= 44.36 44.36
03081> RUNOFF COEFFICIENT = .95 .52
03082>
03083> (i) CN PROCEDURE SELECTED FOR PVIOUS 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

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03106> Unit Hyd. peak (cms)= .54 .10
03107>
03108> PEAK FLOW (cms)= .54 .02
03109> TIME TO PEAK (hrs)= 1.00 1.23
03110> RUNOFF VOLUME (mm)= 42.36 6.56
03111> TOTAL RAINFALL (mm)= 44.36 44.36
03112> RUNOFF COEFFICIENT = .95 .15
03113>
03114> (i) CN PROCEDURE SELECTED FOR PVIOUS 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 NASHHYD | 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> (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 NASHHYD | 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 SPORM | 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 = .30 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> ** EXISTING CONDITIONS
03223> **
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>
03243> PEAK FLOW (cms)= 2.04 .18 *TOTALS*
03244> TIME TO PEAK (hrs)= 1.00 1.45 2.058 (iii)
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> | CALIB NASHYD | Area (ha)= 9.06 Curve Number (CN)=40.00
03258> | 02:C101 DT= 1.00 | Ia (mm)= 8.000 # of Linear Res. (N)= 3.00
03259> | U.H. Tp(hrs)= .510
03260> -----
03261> Unit Hyd Qpeak (cms)= .679
03262>
03263> PEAK FLOW (cms)= .074 (i)
03264> TIME TO PEAK (hrs)= 1.733
03265> RUNOFF VOLUME (mm)= 4.531
03266> TOTAL RAINFALL (mm)= 51.878
03267> RUNOFF COEFFICIENT = .087
03268>
03269> (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
03270>
03271> -----
03272> 001:0139-----
03273> | CALIB NASHYD | Area (ha)= 13.09 Curve Number (CN)=47.00
03274> | 03:C102 DT= 1.00 | Ia (mm)= 8.000 # of Linear Res. (N)= 3.00
03275> | U.H. Tp(hrs)= .850
03276> -----
03277> Unit Hyd Qpeak (cms)= .588
03278>
03279> PEAK FLOW (cms)= .098 (i)
03280> TIME TO PEAK (hrs)= 2.200
03281> RUNOFF VOLUME (mm)= 5.829
03282> TOTAL RAINFALL (mm)= 51.878
03283> RUNOFF COEFFICIENT = .112
03284>
03285> (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
03286>
03287> -----
03288> 001:0140-----
03289> | CALIB STANDHYD | Area (ha)= .61
03290> | 04:C108 DT= 1.00 | Total Imp(%)= 75.00 Dir. Conn.(%)= 1.00
03291> | U.H. Tp(hrs)= .850
03292> -----
03293> IMPERVIOUS PERVIOUS (i)
03294> Surface Area (ha)= .46 .15
03295> Dep. Storage (mm)= 2.00 5.00
03296> Average Slope (%)= 1.00 2.00
03297> Length (m)= 90.00 40.00
03298> Mannings n = .013 .250
03299>
03300> Max.eff.Inten.(mm/hr)= 170.84 162.07
03301> over (min)= 2.00 8.00
03302> Storage Coeff. (min)= 1.94 (ii) 7.75 (ii)
03303> Unit Hyd. Tpeak (min)= 2.00 8.00
03304> Unit Hyd. peak (cms)= .57 .14
03305>
03306> PEAK FLOW (cms)= .00 .05 *TOTALS*
03307> TIME TO PEAK (hrs)= 1.00 1.12 .046 (iii)
03308> RUNOFF VOLUME (mm)= 49.88 16.97 17.302
03309> TOTAL RAINFALL (mm)= 51.88 51.88 51.878
03310> RUNOFF COEFFICIENT = .96 .33 .334
03311>
03312> (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
03313> CN* = 39.0 Ia = Dep. Storage (Above)
03314> (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
03315> THAN THE STORAGE COEFFICIENT.
03316> (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
03317>
03318> -----
03319> 001:0141-----
03320> | ADD HYD (CENTER-W ) | ID: NHYD AREA QPEAK TPEAK R.V. DWF
03321> | 03:C102 DT= 1.00 | (ha) (cms) (hrs) (mm) (mm) (cms)
03322> | U.H. Tp(hrs)= .590
03323> -----
03324> ID1 03:C102 13.09 .098 2.20 5.83 .000
03325> +ID2 04:C108 .61 .046 1.12 17.30 .000
03326> -----
03327> SUM 05:CENTER-W 13.70 .104 2.17 6.34 .000
03328>
03329> NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
03330>
03331> -----
03332> 001:0142-----
03333> | CALIB NASHYD | Area (ha)= 9.17 Curve Number (CN)=64.00
03334> | 03:C104 DT= 1.00 | Ia (mm)= 8.000 # of Linear Res. (N)= 3.00
03335> | U.H. Tp(hrs)= .590
03336> -----
03337> Unit Hyd Qpeak (cms)= .594
03338>
03339> PEAK FLOW (cms)= .158 (i)
03340> TIME TO PEAK (hrs)= 1.833
03341> RUNOFF VOLUME (mm)= 10.309
03342> TOTAL RAINFALL (mm)= 51.878
03343> RUNOFF COEFFICIENT = .199
03344>
03345> (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
03346>
03347> -----
03348> 001:0143-----
03349> | CALIB STANDHYD | Area (ha)= 1.63
03350> | 04:C105 DT= 1.00 | Total Imp(%)= 56.00 Dir. Conn.(%)= 50.00
03351> | U.H. Tp(hrs)= .590
03352> -----
03353> IMPERVIOUS PERVIOUS (i)
03354> Surface Area (ha)= .91 .72
03355> Dep. Storage (mm)= 2.00 5.00
03356> Average Slope (%)= 1.00 2.00
03357> Length (m)= 90.00 40.00
03358> Mannings n = .013 .250
03359>
03360> Max.eff.Inten.(mm/hr)= 170.84 9.94
03361> over (min)= 2.00 20.00
03362> Storage Coeff. (min)= 1.94 (ii) 19.70 (ii)
03363> Unit Hyd. Tpeak (min)= 2.00 20.00
03364> Unit Hyd. peak (cms)= .57 .06
03365>
03366> PEAK FLOW (cms)= .36 .01 *TOTALS*
03367> TIME TO PEAK (hrs)= 1.00 1.40 1.000
03368> RUNOFF VOLUME (mm)= 49.88 5.68 27.778
03369> TOTAL RAINFALL (mm)= 51.88 51.88 51.878
03370> RUNOFF COEFFICIENT = .96 .11 .535
03371>
03372> (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
03373> CN* = 39.0 Ia = Dep. Storage (Above)
03374>

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03375> (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
03376> THAN THE STORAGE COEFFICIENT.
03377> (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
03378>
03379> -----
03380> 001:0144-----
03381> | ADD HYD (EAST-T ) | ID: NHYD AREA QPEAK TPEAK R.V. DWF
03382> | 03:C103 DT= 1.00 | (ha) (cms) (hrs) (mm) (mm) (cms)
03383> | U.H. Tp(hrs)= .540
03384> -----
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> | CALIB NASHYD | Area (ha)= 8.73 Curve Number (CN)=62.00
03396> | 01:C103 DT= 1.00 | Ia (mm)= 8.000 # of Linear Res. (N)= 3.00
03397> | U.H. Tp(hrs)= .540
03398> -----
03399> Unit Hyd Qpeak (cms)= .617
03400>
03401> PEAK FLOW (cms)= .149 (i)
03402> TIME TO PEAK (hrs)= 1.767
03403> RUNOFF VOLUME (mm)= 9.648
03404> TOTAL RAINFALL (mm)= 51.878
03405> RUNOFF COEFFICIENT = .186
03406>
03407> (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
03408>
03409> -----
03410> 001:0146-----
03411> | CALIB STANDHYD | Area (ha)= .47
03412> | 03:C106 DT= 1.00 | Total Imp(%)= 75.00 Dir. Conn.(%)= 1.00
03413> | U.H. Tp(hrs)= .850
03414> -----
03415> IMPERVIOUS PERVIOUS (i)
03416> Surface Area (ha)= .35 .12
03417> Dep. Storage (mm)= 2.00 5.00
03418> Average Slope (%)= 1.00 2.00
03419> Length (m)= 90.00 40.00
03420> Mannings n = .013 .250
03421>
03422> Max.eff.Inten.(mm/hr)= 170.84 162.07
03423> over (min)= 2.00 8.00
03424> Storage Coeff. (min)= 1.94 (ii) 7.75 (ii)
03425> Unit Hyd. Tpeak (min)= 2.00 8.00
03426> Unit Hyd. peak (cms)= .57 .14
03427>
03428> PEAK FLOW (cms)= .00 .03 *TOTALS*
03429> TIME TO PEAK (hrs)= 1.00 1.12 .036 (iii)
03430> RUNOFF VOLUME (mm)= 49.88 16.97 17.302
03431> TOTAL RAINFALL (mm)= 51.88 51.88 51.878
03432> RUNOFF COEFFICIENT = .96 .33 .334
03433>
03434> (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
03435> CN* = 39.0 Ia = Dep. Storage (Above)
03436> (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
03437> THAN THE STORAGE COEFFICIENT.
03438> (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
03439>
03440> -----
03441> 001:0147-----
03442> | CALIB STANDHYD | Area (ha)= .54
03443> | 04:C107 DT= 1.00 | Total Imp(%)= 75.00 Dir. Conn.(%)= 1.00
03444> | U.H. Tp(hrs)= .850
03445> -----
03446> IMPERVIOUS PERVIOUS (i)
03447> Surface Area (ha)= .41 .14
03448> Dep. Storage (mm)= 2.00 5.00
03449> Average Slope (%)= 1.00 2.00
03450> Length (m)= 90.00 40.00
03451> Mannings n = .013 .250
03452>
03453> Max.eff.Inten.(mm/hr)= 170.84 162.07
03454> over (min)= 2.00 8.00
03455> Storage Coeff. (min)= 1.94 (ii) 7.75 (ii)
03456> Unit Hyd. Tpeak (min)= 2.00 8.00
03457> Unit Hyd. peak (cms)= .57 .14
03458>
03459> PEAK FLOW (cms)= .00 .04 *TOTALS*
03460> TIME TO PEAK (hrs)= 1.00 1.12 .041 (iii)
03461> RUNOFF VOLUME (mm)= 49.88 16.97 17.302
03462> TOTAL RAINFALL (mm)= 51.88 51.88 51.878
03463> RUNOFF COEFFICIENT = .96 .33 .334
03464>
03465> (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
03466> CN* = 39.0 Ia = Dep. Storage (Above)
03467> (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
03468> THAN THE STORAGE COEFFICIENT.
03469> (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
03470>
03471> -----
03472> 001:0148-----
03473> | ADD HYD (WEST-T ) | ID: NHYD AREA QPEAK TPEAK R.V. DWF
03474> | 03:C109 DT= 1.00 | (ha) (cms) (hrs) (mm) (mm) (cms)
03475> | U.H. Tp(hrs)= .540
03476> -----
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> | CALIB STANDHYD | Area (ha)= .17
03488> | 01:C109 DT= 1.00 | Total Imp(%)= 75.00 Dir. Conn.(%)= 1.00
03489> | U.H. Tp(hrs)= .850
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>
03504> PEAK FLOW (cms)= .00 .01 *TOTALS*
03505> TIME TO PEAK (hrs)= 1.00 1.12 .013 (iii)
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>

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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> *#-----
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> -----
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 PVIOUS 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> -----
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 PVIOUS 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> -----
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 PVIOUS 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>

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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> -----
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 PVIOUS 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 ) |
03699> -----
03700> OUTFLOW STORAGE TABLE
03701> (cms) (ha.m.) (cms) (ha.m.)
03702> .000 .0000E+00 | .340 .2740E+00
03703> .011 .2900E-01 | .697 .3140E+00
03704> .015 .6000E-01 | 1.206 .3540E+00
03705> .019 .9200E-01 | 1.880 .3960E+00
03706> .022 .1260E+00 | 2.734 .4380E+00
03707> .024 .1610E+00 | 3.779 .4820E+00
03708> .027 .1980E+00 | 5.029 .5260E+00
03709> .120 .2360E+00 | .000 .0000E+00
03710> -----
03711> ROUTING RESULTS AREA QPEAK TPEAK R.V.
03712> (ha) (cms) (hrs) (mm)
03713> INFLOW >07: (toSWMF) 12.32 1.790 1.000 20.439
03714> INFLOW <01: (SWMF ) 12.32 .068 2.750 20.439
03715> OVERFLOW<02: (OverQ) .00 .000 .000 .000
03716> -----
03717> TOTAL NUMBER OF SIMULATED OVERFLOWS = 0
03718> CUMULATIVE TIME OF OVERFLOWS (hours)= .00
03719> PERCENTAGE OF TIME OVERFLOWING (%)= .00
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> -----
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 PVIOUS 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> -----
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>
03839> PEAK FLOW (cms)= .15 .00
03840> TIME TO PEAK (hrs)= 1.00 1.20
03841> RUNOFF VOLUME (mm)= 49.88 4.95
03842> TOTAL RAINFALL (mm)= 51.88 51.87
03843> RUNOFF COEFFICIENT = .96 .10
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>
03887> PEAK FLOW (cms)= .00 .04
03888> TIME TO PEAK (hrs)= 1.00 1.12
03889> RUNOFF VOLUME (mm)= 49.88 16.97
03890> TOTAL RAINFALL (mm)= 51.88 51.87
03891> RUNOFF COEFFICIENT = .96 .33
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>

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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>
03995> PEAK FLOW (cms)= .00 .05
03996> TIME TO PEAK (hrs)= 1.00 1.12
03997> RUNOFF VOLUME (mm)= 49.88 16.97
03998> TOTAL RAINFALL (mm)= 51.88 51.87
03999> RUNOFF COEFFICIENT = .96 .33
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> ** PROPOSED ULTIMATE DEVELOPMENT CONDITIONS *****
04023> **
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>
04043> PEAK FLOW (cms)= .11 .01
04044> TIME TO PEAK (hrs)= 1.00 1.18
04045> RUNOFF VOLUME (mm)= 49.88 9.83
04046> TOTAL RAINFALL (mm)= 51.88 51.87
04047> RUNOFF COEFFICIENT = .96 .19
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> -----
04061> Total minor system capacity = .077 (cms)
04062> Total major system storage [TMJSTO] = 0. (cu.m.)
04063>
04064> ID: NHYD AREA QPEAK TPEAK R.V. DWF
04065> (ha) (cms) (hrs) (mm) (cms)
04066> =====
04067> TOTAL HYD. 01:B100 .43 .116 1.000 33.859 .000
04068> MAJOR SYST 03:toCWL .03 .039 1.000 33.859 .000
04069> MINOR SYST 02:toSWMF .40 .077 .950 33.859 .000
04070>
04071> NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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>
04091> PEAK FLOW (cms)= .53 .05 *TOTALS*
04092> TIME TO PEAK (hrs)= 1.00 1.28 .537 (iii)
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> -----
04109> Total minor system capacity = .440 (cms)
04110> Total major system storage [TMJSTO] = 0. (cu.m.)
04111>
04112> ID: NHYD AREA QPEAK TPEAK R.V. DWF
04113> (ha) (cms) (hrs) (mm) (cms)
04114> =====
04115> TOTAL HYD. 01:C303 4.00 .537 1.000 19.049 .000
04116> MAJOR SYST 05:toCW2 .08 .097 1.000 19.049 .000
04117> MINOR SYST 04:toSWMF 3.92 .440 .967 19.049 .000
04118>
04119> NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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>
04139> PEAK FLOW (cms)= .29 .01 *TOTALS*
04140> TIME TO PEAK (hrs)= 1.00 1.30 .298 (iii)
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> -----
04157> Total minor system capacity = .237 (cms)
04158> Total major system storage [TMJSTO] = 0. (cu.m.)
04159>
04160> ID: NHYD AREA QPEAK TPEAK R.V. DWF
04161> (ha) (cms) (hrs) (mm) (cms)
04162> =====
04163> TOTAL HYD. 01:C309 1.14 .288 1.000 30.861 .000
04164> MAJOR SYST 07:toCW2 .03 .051 1.000 30.861 .000
04165> MINOR SYST 06:toSWMF 1.11 .237 .967 30.861 .000
04166>
04167> NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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

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04186>
04187> PEAK FLOW (cms)= .11 .00 *TOTALS*
04188> TIME TO PEAK (hrs)= 1.00 1.43 1.107 (iii)
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> -----
04205> Total minor system capacity = .025 (cms)
04206> Total major system storage [TMJSTO] = 0. (cu.m.)
04207>
04208> ID: NHYD AREA QPEAK TPEAK R.V. DWF
04209> (ha) (cms) (hrs) (mm) (cms)
04210> =====
04211> TOTAL HYD. 01:C308 .27 .107 1.000 45.385 .000
04212> MAJOR SYST 09:toCW4 .09 .082 1.000 45.385 .000
04213> MINOR SYST 08:toSWMF .18 .025 .867 45.385 .000
04214>
04215> NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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> -----
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) |
04254>
04255> OUTFLOW STORAGE TABLE
04256> (cms) (ha.m.) (cms) (ha.m.)
04257> .000 .0000E+00 | .222 .6400E+00
04258> .000 .3700E+00 | .000 .0000E+00
04259>
04260> ROUTING RESULTS AREA QPEAK TPEAK R.V.
04261> (ha) (cms) (hrs) (mm)
04262> INFLOW >10: (CENTER) 10.11 .270 1.000 4.208
04263> OUTFLOW<01: (CW-SSD) 10.11 .000 .000 .000
04264> OVERFLOW<03: (toWT1) .00 .000 .000 .000
04265>
04266> TOTAL NUMBER OF SIMULATED OVERFLOWS = 0
04267> CUMULATIVE TIME OF OVERFLOWS (hours) = .00
04268> PERCENTAGE OF TIME OVERFLOWING (%) = .00
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>
04294> PEAK FLOW (cms)= .05 .01 *TOTALS*
04295> TIME TO PEAK (hrs)= 1.00 1.28 .049 (iii)
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> -----
04312> Total minor system capacity = .064 (cms)
04313> Total major system storage [TMJSTO] = 0. (cu.m.)
04314>
04315> ID: NHYD AREA QPEAK TPEAK R.V. DWF
04316> (ha) (cms) (hrs) (mm) (cms)
04317> =====
04318> TOTAL HYD. 05:C207 .44 .049 1.000 16.796 .000
04319> MAJOR SYST 09:toEP1 .00 .000 .000 .000 .000
04320> MINOR SYST 07:toSWMF .44 .049 1.000 16.796 .000

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04321> NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
04322> -----
04323> 001:0185-----
04324> | CALIB STANDHYD | Area (ha)= .93
04325> | 05:C208 DT= 1.00 | Total Imp (%)= 35.00 Dir. Conn. (%)= 25.00
04326> -----
04327> IMPERVIOUS PERVIOUS (i)
04328> Surface Area (ha)= .33 .60
04329> Dep. Storage (mm)= 2.00 5.00
04330> Average Slope (%)= 1.00 2.00
04331> Length (m)= 90.00 25.00
04332> Mannings n = .013 .250
04333> -----
04334> Max.eff.Inten.(mm/hr)= 170.84 12.13
04335> over (min) 2.00 14.00
04336> Storage Coeff. (min)= 1.94 (ii) 14.12 (ii)
04337> Unit Hyd. Tpeak (min)= 2.00 14.00
04338> Unit Hyd. peak (cms)= .57 .08
04339> -----
04340> *TOTALS*
04341> PEAK FLOW (cms)= .10 .01 1.04 (iii)
04342> TIME TO PEAK (hrs)= 1.00 1.28 1.00 1
04343> RUNOFF VOLUME (mm)= 49.88 5.77 16.796
04344> TOTAL RAINFALL (mm)= 51.88 51.88 51.878
04345> RUNOFF COEFFICIENT = .96 .11 .324
04346> -----
04347> (i) CN PROCEDURE SELECTED FOR PVIOUS LOSSES:
04348> CN* = 39.0 Ia = Dep. Storage (Above)
04349> (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
04350> THAN THE STORAGE COEFFICIENT.
04351> (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
04352> -----
04353> 001:0186-----
04354> | COMPUTE DUALHYD | Average inlet capacities [CINLET] = .119 (cms)
04355> | TotalHyd 05:C208 | Number of inlets in system [NINLET] = 1
04356> | ----- | Total minor system capacity = .119 (cms)
04357> | Total major system storage [TMJSTO] = 0 (cu.m.)
04358> -----
04359> ID: NHYD AREA QPEAK TPEAK R.V. DWF
04360> (ha) (cms) (hrs) (mm) (cms)
04361> TOTAL HYD. 05:C208 .93 .104 1.000 16.796 .000
04362> -----
04363> MAJOR SYST 03:toET2 .00 .000 .000 .000 .000
04364> MINOR SYST 01:toSWMF .93 .104 1.000 16.796 .000
04365> -----
04366> NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
04367> -----
04368> 001:0187-----
04369> | ADD HYD (toSWMF1A ) | ID: NHYD AREA QPEAK TPEAK R.V. DWF
04370> (ha) (cms) (hrs) (mm) (cms)
04371> ID1 01:toSWMF6 .93 .104 1.00 16.80 .000
04372> +ID2 02:toSWMF1 .40 .077 .95 33.86 .000
04373> +ID3 04:toSWMF2 3.92 .440 .97 19.05 .000
04374> +ID4 06:toSWMF3 1.11 .237 .97 30.86 .000
04375> +ID5 07:toSWMF5 .44 .049 1.00 16.80 .000
04376> +ID6 08:toSWMF4 .18 .025 .87 45.39 .000
04377> -----
04378> SUM 05:toSWMF1A 6.99 .933 1.00 22.04 .000
04379> -----
04380> NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
04381> -----
04382> 001:0188-----
04383> | CALIB STANDHYD | Area (ha)= 12.10
04384> | 01:C302 DT= 1.00 | Total Imp (%)= 41.00 Dir. Conn. (%)= 31.00
04385> -----
04386> IMPERVIOUS PERVIOUS (i)
04387> Surface Area (ha)= 4.96 7.14
04388> Dep. Storage (mm)= 2.00 5.00
04389> Average Slope (%)= 1.00 2.00
04390> Length (m)= 90.00 25.00
04391> Mannings n = .013 .250
04392> -----
04393> Max.eff.Inten.(mm/hr)= 170.84 12.48
04394> over (min) 2.00 14.00
04395> Storage Coeff. (min)= 1.94 (ii) 14.18 (ii)
04396> Unit Hyd. Tpeak (min)= 2.00 14.00
04397> Unit Hyd. peak (cms)= .57 .08
04398> -----
04399> *TOTALS*
04400> PEAK FLOW (cms)= 1.65 .15 1.677 (iii)
04401> TIME TO PEAK (hrs)= 1.00 1.28 1.000
04402> RUNOFF VOLUME (mm)= 49.88 5.88 19.499
04403> TOTAL RAINFALL (mm)= 51.88 51.88 51.878
04404> RUNOFF COEFFICIENT = .96 .11 .376
04405> -----
04406> (i) CN PROCEDURE SELECTED FOR PVIOUS LOSSES:
04407> CN* = 39.0 Ia = Dep. Storage (Above)
04408> (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
04409> THAN THE STORAGE COEFFICIENT.
04410> (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
04411> -----
04412> 001:0189-----
04413> | CALIB STANDHYD | Area (ha)= 1.29
04414> | 02:C203 DT= 1.00 | Total Imp (%)= 68.00 Dir. Conn. (%)= 66.00
04415> -----
04416> IMPERVIOUS PERVIOUS (i)
04417> Surface Area (ha)= .88 .41
04418> Dep. Storage (mm)= 2.00 5.00
04419> Average Slope (%)= 1.00 2.00
04420> Length (m)= 100.00 100.00
04421> Mannings n = .013 .250
04422> -----
04423> Max.eff.Inten.(mm/hr)= 170.84 5.66
04424> over (min) 3.00 41.00
04425> Storage Coeff. (min)= 2.54 (ii) 41.12 (ii)
04426> Unit Hyd. Tpeak (min)= 3.00 41.00
04427> Unit Hyd. peak (cms)= .42 .03
04428> -----
04429> *TOTALS*
04430> PEAK FLOW (cms)= .34 .00 .343 (iii)
04431> TIME TO PEAK (hrs)= 1.02 1.80 1.017 (mm)
04432> RUNOFF VOLUME (mm)= 49.88 5.28 34.716
04433> TOTAL RAINFALL (mm)= 51.88 51.88 51.878
04434> RUNOFF COEFFICIENT = .96 .10 .669
04435> -----
04436> (i) CN PROCEDURE SELECTED FOR PVIOUS LOSSES:
04437> CN* = 39.0 Ia = Dep. Storage (Above)
04438> (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
04439> THAN THE STORAGE COEFFICIENT.
04440> (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
04441> -----
04442> 001:0190-----
04443> | ADD HYD (toSWMF2A ) | ID: NHYD AREA QPEAK TPEAK R.V. DWF
04444> (ha) (cms) (hrs) (mm) (cms)
04445> ID1 01:C302 12.10 1.677 1.00 19.50 .000
04446> +ID2 02:C203 1.29 .343 1.02 34.72 .000
04447> -----

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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> 001:0191-----
04463> | ROUTE RESERVOIR | Requested routing time step = 1.0 min.
04464> | IN>04: (toSWMF) | -----
04465> | OUT<01: (SWMF ) | ===== OUTFLOW STORAGE TABLE =====
04466> OUTFLOW STORAGE | OUTFLOW STORAGE
04467> (cms) (ha.m.) | (cms) (ha.m.)
04468> .000 .0000E+00 | .340 .2740E+00
04469> .011 .2900E-01 | .697 .3140E+00
04470> .015 .6000E-01 | 1.206 .3540E+00
04471> .019 .9200E-01 | 1.880 .3960E+00
04472> .022 .1260E+00 | 2.734 .4380E+00
04473> .024 .1610E+00 | 3.779 .4820E+00
04474> .027 .1980E+00 | 5.029 .5260E+00
04475> .120 .2360E+00 | .000 .0000E+00
04476> -----
04477> ROUTING RESULTS AREA QPEAK TPEAK R.V.
04478> (ha) (cms) (hrs) (mm)
04479> INFLOW >04: (toSWMF) 20.38 2.950 1.000 21.333
04480> OUTFLOW<01: (SWMF ) 20.38 .407 1.567 21.333
04481> OVERFLOW<02: (OverQ) .00 .000 .000 .000
04482> -----
04483> TOTAL NUMBER OF SIMULATED OVERFLOWS = 0
04484> CUMULATIVE TIME OF OVERFLOWS (hours)= .00
04485> PERCENTAGE OF TIME OVERFLOWING (%)= .00
04486> -----
04487> PEAK FLOW REDUCTION [Qout/Qin] (%)= 13.811
04488> TIME SHIFT OF PEAK FLOW (min)= 34.00
04489> MAXIMUM STORAGE USED (ha.m.)= .2816E+00
04490> -----
04491> 001:0192-----
04492> | CALIB STANDHYD | Area (ha)= 18.54
04493> | 04:EX-2 DT= 1.00 | Total Imp (%)= 35.00 Dir. Conn. (%)= 25.00
04494> -----
04495> IMPERVIOUS PERVIOUS (i)
04496> Surface Area (ha)= 6.49 12.05
04497> Dep. Storage (mm)= 2.00 5.00
04498> Average Slope (%)= 1.00 2.00
04499> Length (m)= 90.00 25.00
04500> Mannings n = .013 .250
04501> -----
04502> Max.eff.Inten.(mm/hr)= 170.84 9.49
04503> over (min) 2.00 23.00
04504> Storage Coeff. (min)= 1.94 (ii) 22.64 (ii)
04505> Unit Hyd. Tpeak (min)= 2.00 23.00
04506> Unit Hyd. peak (cms)= .57 .05
04507> -----
04508> PEAK FLOW (cms)= 2.04 .18 *TOTALS*
04509> TIME TO PEAK (hrs)= 1.00 1.45 2.058 (iii)
04510> RUNOFF VOLUME (mm)= 49.88 5.77 16.796
04511> TOTAL RAINFALL (mm)= 51.88 51.88 51.878
04512> RUNOFF COEFFICIENT = .96 .11 .324
04513> -----
04514> (i) CN PROCEDURE SELECTED FOR PVIOUS LOSSES:
04515> CN* = 39.0 Ia = Dep. Storage (Above)
04516> (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
04517> THAN THE STORAGE COEFFICIENT.
04518> (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
04519> -----
04520> 001:0193-----
04521> | CALIB STANDHYD | Area (ha)= .51
04522> | 05:C209 DT= 1.00 | Total Imp (%)= 61.00 Dir. Conn. (%)= 55.00
04523> -----
04524> IMPERVIOUS PERVIOUS (i)
04525> Surface Area (ha)= .31 .20
04526> Dep. Storage (mm)= 2.00 5.00
04527> Average Slope (%)= 1.00 2.00
04528> Length (m)= 90.00 10.00
04529> Mannings n = .013 .250
04530> -----
04531> Max.eff.Inten.(mm/hr)= 170.84 14.36
04532> over (min) 2.00 9.00
04533> Storage Coeff. (min)= 1.94 (ii) 8.61 (ii)
04534> Unit Hyd. Tpeak (min)= 2.00 9.00
04535> Unit Hyd. peak (cms)= .57 .13
04536> -----
04537> PEAK FLOW (cms)= .12 .01 *TOTALS*
04538> TIME TO PEAK (hrs)= 1.00 1.18 1.000
04539> RUNOFF VOLUME (mm)= 49.88 5.77 30.029
04540> TOTAL RAINFALL (mm)= 51.88 51.88 51.878
04541> RUNOFF COEFFICIENT = .96 .11 .579
04542> -----
04543> (i) CN PROCEDURE SELECTED FOR PVIOUS LOSSES:
04544> CN* = 39.0 Ia = Dep. Storage (Above)
04545> (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
04546> THAN THE STORAGE COEFFICIENT.
04547> (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
04548> -----
04549> 001:0194-----
04550> | COMPUTE DUALHYD | Average inlet capacities [CINLET] = .109 (cms)
04551> | TotalHyd 05:C209 | Number of inlets in system [NINLET] = 1
04552> | ----- | Total minor system capacity = .109 (cms)
04553> | Total major system storage [TMJSTO] = 0 (cu.m.)
04554> -----
04555> ID: NHYD AREA QPEAK TPEAK R.V. DWF
04556> (ha) (cms) (hrs) (mm) (cms)
04557> TOTAL HYD. 05:C209 .51 .125 1.000 30.029 .000
04558> -----
04559> MAJOR SYST 07:toETP3 .01 .016 1.000 30.029 .000
04560> MINOR SYST 06:toWT2 .50 .109 .983 30.029 .000
04561> -----
04562> NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
04563> -----
04564> 001:0195-----
04565> | ADD HYD (EAST-T ) | ID: NHYD AREA QPEAK TPEAK R.V. DWF
04566> (ha) (cms) (hrs) (mm) (cms)
04567> ID1 01:SWMF 20.38 .407 1.57 21.33 .000
04568> +ID2 02:OverQ .00 .000 .00 .00 .000
04569> +ID3 03:toET2 .00 .000 .00 .00 .000
04570> +ID4 04:EX-2 18.54 2.058 1.00 16.80 .000
04571> +ID5 07:toET3 .01 .016 1.00 30.03 .000
04572> +ID6 09:toET1 .00 .000 .00 .00 .000
04573> -----
04574> SUM 05:EAST-T 38.93 2.096 1.00 19.17 .000
04575> -----
04576> NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
04577> -----
04578> 001:0196-----
04579> | COMPUTE DUALHYD | Average inlet capacities [CINLET] = .109 (cms)
04580> | TotalHyd 05:C209 | Number of inlets in system [NINLET] = 1
04581> | ----- | Total minor system capacity = .109 (cms)
04582> | Total major system storage [TMJSTO] = 0 (cu.m.)
04583> -----
04584> ID: NHYD AREA QPEAK TPEAK R.V. DWF
04585> (ha) (cms) (hrs) (mm) (cms)
04586> TOTAL HYD. 05:C209 .51 .125 1.000 30.029 .000
04587> -----
04588> MAJOR SYST 07:toETP3 .01 .016 1.000 30.029 .000
04589> MINOR SYST 06:toWT2 .50 .109 .983 30.029 .000
04590> -----
04591> NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
04592> -----
04593> 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>-----
04608> PEAK FLOW (cms)= .15 .00 *TOTALS*
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 PVIOUS 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>-----
04639> PEAK FLOW (cms)= .00 .05 *TOTALS*
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 PVIOUS 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 6.49
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>-----
04670> PEAK FLOW (cms)= .66 .04 *TOTALS*
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 PVIOUS 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> Maximum MAJOR SYSTEM storage used = 586. (cu.m.)
04699>-----
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> 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>-----
04727> +ID4 04:toPD 2.61 .030 .550 32.27 .000
04728> +ID5 06:toWT2 .50 .109 .98 30.03 .000
04729> +ID6 07:toWT3 .00 .000 .00 .00 .000
04730>-----
04731> SUM 08:WEST-T 5.54 .346 1.00 23.77 .000
04732>-----
04733> NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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> *#-----
04756> *#-----
04757> *#-----
04758> *#-----
04759>-----
04760> | CHICAGO STORM | IDF curve parameters: A=1835.352
04761> | Ptotal= 61.64 mm | B= 7.844
04762>-----
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> *#-----
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>-----
04805> PEAK FLOW (cms)= 2.49 .30 *TOTALS*
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 PVIOUS 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>-----
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 (iii)
04867> Unit Hyd. Tpeak (min)= 2.00 7.00
04868> Unit Hyd. peak (cms)= .60 .16
04869>
04870> PEAK FLOW (cms)= .00 .07
04871> TIME TO PEAK (hrs)= 1.00 1.10
04872> RUNOFF VOLUME (mm)= 59.64 22.69
04873> TOTAL RAINFALL (mm)= 61.64 61.64
04874> RUNOFF COEFFICIENT = .97 .37
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 | (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)= .71
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>
04930> PEAK FLOW (cms)= .44 .02
04931> TIME TO PEAK (hrs)= 1.00 1.33
04932> RUNOFF VOLUME (mm)= 59.64 8.05
04933> TOTAL RAINFALL (mm)= 61.64 61.64
04934> RUNOFF COEFFICIENT = .97 .13
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 SHYD | 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>
04991> PEAK FLOW (cms)= .00 .05
04992> TIME TO PEAK (hrs)= 1.00 1.10
04993> RUNOFF VOLUME (mm)= 59.64 22.69
04994> TOTAL RAINFALL (mm)= 61.64 61.64
04995> RUNOFF COEFFICIENT = .97 .37

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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>
05022> PEAK FLOW (cms)= .00 .06
05023> TIME TO PEAK (hrs)= 1.00 1.10
05024> RUNOFF VOLUME (mm)= 59.64 22.69
05025> TOTAL RAINFALL (mm)= 61.64 61.64
05026> RUNOFF COEFFICIENT = .97 .37
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>
05066> PEAK FLOW (cms)= .00 .02
05067> TIME TO PEAK (hrs)= 1.00 1.10
05068> RUNOFF VOLUME (mm)= 59.64 22.69
05069> TOTAL RAINFALL (mm)= 61.64 61.64
05070> RUNOFF COEFFICIENT = .97 .37
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> *****
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>
05102> PEAK FLOW (cms)= 1.56 .19
05103> TIME TO PEAK (hrs)= 1.00 1.25
05104> RUNOFF VOLUME (mm)= 59.64 8.27
05105> TOTAL RAINFALL (mm)= 61.64 61.64
05106> RUNOFF COEFFICIENT = .97 .13
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>
05133> PEAK FLOW (cms) = .06 .01 *TOTALS*
05134> TIME TO PEAK (hrs) = 1.00 1.25 1.000 .061 (iii)
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 PVIOUS 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>
05181> PEAK FLOW (cms) = .12 .02 *TOTALS*
05182> TIME TO PEAK (hrs) = 1.00 1.25 .128 (iii)
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 PVIOUS 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>
05229> PEAK FLOW (cms) = .43 .01 *TOTALS*
05230> TIME TO PEAK (hrs) = 1.00 1.67 .435 (iii)
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 PVIOUS 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 ) |
05261>
05262> ===== OUTFLOW STORAGE TABLE =====
05263> OUTFLOW STORAGE | OUTFLOW STORAGE
05264> (cms) (ha.m.) | (cms) (ha.m.)
05265> .000 .0000E+00 | .340 .2740E+00
05266> .011 .2900E-01 | .697 .3140E+00
05267> .015 .6000E-01 | 1.206 .3540E+00

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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>
05306> PEAK FLOW (cms) = 2.49 .30 *TOTALS*
05307> TIME TO PEAK (hrs) = 1.00 1.38 2.518 (iii)
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 PVIOUS 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>
05337> PEAK FLOW (cms) = .15 .01 *TOTALS*
05338> TIME TO PEAK (hrs) = 1.00 1.15 .154 (iii)
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 PVIOUS 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>
05401> *TOTALS*

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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 NASHVD | 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)= 2.00 5.00
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>
05449> PEAK FLOW (cms)= .00 .06 *TOTALS*
05450> TIME TO PEAK (hrs)= 1.00 1.10 .060 (iii)
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 NASHVD | 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 NASHVD | 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 NASHVD | 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>

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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>
05557> PEAK FLOW (cms)= .00 .07 *TOTALS*
05558> TIME TO PEAK (hrs)= 1.00 1.10 .060 (iii)
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> *# PROPOSED ULTIMATE DEVELOPMENT CONDITIONS
05586> *# *****
05587>
05588> | CALIB STANDHYD | Area (ha)= .43
05589> | 01:B100 DT= 1.00 | Total Imp(%)= 80.00 Dir. Conn.(%)= 60.00
05590>
05591> IMPERVIOUS Pervious (i)
05592> Surface Area (ha)= .34 .09
05593> Dep. Storage (mm)= 2.00 5.00
05594> Average Slope (%)= 1.00 2.00
05595> Length (m)= 90.00 25.00
05596> Mannings n = .013 .250
05597>
05598> Max.eff.Inten.(mm/hr)= 205.33 63.58
05599> over (min)= 2.00 8.00
05600> Storage Coeff. (min)= 1.80 (ii) 8.18 (ii)
05601> Unit Hyd. Tpeak (min)= 2.00 8.00
05602> Unit Hyd. peak (cms)= .60 .14
05603>
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:toCWL .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>
05653> PEAK FLOW (cms)= .64 .08 *TOTALS*
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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05671> Total major system storage [TMJSTO] = 0. (cu.m.)
05672>
05673> ID: NHYD AREA QPEAK TPEAK R.V. DWF
05674> (ha) (cms) (hrs) (mm) (cms)
05675> TOTAL HYD. 01:C303 4.00 .659 1.000 23.681 .000
05676> =====
05677> MAJOR SYST 05:toCW2 .20 .219 1.000 23.681 .000
05678> MINOR SYST 04:toSWMF 3.80 .440 .950 23.681 .000
05679>
05680> NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
05681>
05682> -----
05683> 001:0243-----
05684>
05685> | CALIB STANDHYD | Area (ha)= 1.14
05686> | 01:C309 DT= 1.00 | Total Imp(%)= 62.00 Dir. Conn.(%)= 57.00
05687>
05688> IMPERVIOUS PERVIOUS (i)
05689> Surface Area (ha)= .71 .43
05690> Dep. Storage (mm)= 2.00 5.00
05691> Average Slope (%)= 1.00 2.00
05692> Length (m)= 90.00 25.00
05693> Mannings n = .013 .250
05694>
05695> Max.eff.Inten.(mm/hr)= 205.33 18.11
05696> over (min) 2.00 12.00
05697> Storage Coeff. (min)= 1.80 (ii) 12.34 (ii)
05698> Unit Hyd. Tpeak (min)= 2.00 12.00
05699> Unit Hyd. peak (cms)= .60 .09
05700>
05701> PEAK FLOW (cms)= .35 .01 *TOTALS*
05702> TIME TO PEAK (hrs)= 1.00 1.25 .351 (iii)
05703> RUNOFF VOLUME (mm)= 59.64 8.02 37.445
05704> TOTAL RAINFALL (mm)= 61.64 61.64 61.643
05705> RUNOFF COEFFICIENT = .97 .13 .607
05706>
05707> (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
05708> CN* = 39.0 Ia = Dep. Storage (Above)
05709> (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
05710> THAN THE STORAGE COEFFICIENT.
05711> (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
05712>
05713> -----
05714> 001:0244-----
05715>
05716> | COMPUTE DUALHYD | Average inlet capacities [CINLET] = .237 (cms)
05717> | TotalHyd 01:C309 | Number of inlets in system [NINLET] = 1
05718> | | Total minor system capacity = .237 (cms)
05719> | | Total major system storage [TMJSTO] = 0. (cu.m.)
05720>
05721> ID: NHYD AREA QPEAK TPEAK R.V. DWF
05722> (ha) (cms) (hrs) (mm) (cms)
05723> TOTAL HYD. 01:C309 1.14 .351 1.000 37.445 .000
05724> =====
05725> MAJOR SYST 07:toCW3 .07 .114 1.000 37.445 .000
05726> MINOR SYST 06:toSWMF 1.07 .237 .950 37.445 .000
05727>
05728> NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
05729>
05730> -----
05731> 001:0245-----
05732>
05733> | CALIB STANDHYD | Area (ha)= .27
05734> | 01:C308 DT= 1.00 | Total Imp(%)= 90.00 Dir. Conn.(%)= 90.00
05735>
05736> IMPERVIOUS PERVIOUS (i)
05737> Surface Area (ha)= .24 .03
05738> Dep. Storage (mm)= 2.00 5.00
05739> Average Slope (%)= 1.00 2.00
05740> Length (m)= 90.00 40.00
05741> Mannings n = .013 .250
05742>
05743> Max.eff.Inten.(mm/hr)= 205.33 11.42
05744> over (min) 2.00 19.00
05745> Storage Coeff. (min)= 1.80 (ii) 18.61 (ii)
05746> Unit Hyd. Tpeak (min)= 2.00 19.00
05747> Unit Hyd. peak (cms)= .60 .06
05748>
05749> PEAK FLOW (cms)= .13 .00 *TOTALS*
05750> TIME TO PEAK (hrs)= 1.00 1.38 1.000
05751> RUNOFF VOLUME (mm)= 59.64 7.07 54.385
05752> TOTAL RAINFALL (mm)= 61.64 61.64 61.643
05753> RUNOFF COEFFICIENT = .97 .11 .882
05754>
05755> (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
05756> CN* = 39.0 Ia = Dep. Storage (Above)
05757> (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
05758> THAN THE STORAGE COEFFICIENT.
05759> (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
05760>
05761> -----
05762> 001:0246-----
05763>
05764> | COMPUTE DUALHYD | Average inlet capacities [CINLET] = .025 (cms)
05765> | TotalHyd 01:C308 | Number of inlets in system [NINLET] = 1
05766> | | Total minor system capacity = .025 (cms)
05767> | | Total major system storage [TMJSTO] = 0. (cu.m.)
05768>
05769> ID: NHYD AREA QPEAK TPEAK R.V. DWF
05770> (ha) (cms) (hrs) (mm) (cms)
05771> TOTAL HYD. 01:C308 .27 .130 1.000 54.385 .000
05772> =====
05773> MAJOR SYST 09:toCW4 .10 .105 1.000 54.385 .000
05774> MINOR SYST 08:toSWMF .17 .025 .867 54.385 .000
05775>
05776> NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
05777>
05778> -----
05779> 001:0247-----
05780>
05781> | CALIB NASHYD | Area (ha)= 9.89 Curve Number (CN)=34.00
05782> | 01:C304 DT= 1.00 | Ia (mm)= 8.000 # of Linear Res. (N)= 3.00
05783> | | U.H. Tp (hrs)= .510
05784>
05785> Unit Hyd Qpeak (cms)= .741
05786>
05787> PEAK FLOW (cms)= .096 (i)
05788> TIME TO PEAK (hrs)= 1.717
05789> RUNOFF VOLUME (mm)= 5.263
05790> TOTAL RAINFALL (mm)= 61.643
05791> RUNOFF COEFFICIENT = .085
05792>
05793> (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
05794>
05795> -----
05796> 001:0248-----
05797>
05798> | ADD HYD (CENTER-W ) | ID: NHYD AREA QPEAK TPEAK R.V. DWF
05799> (ha) (cms) (hrs) (mm) (cms)
05800> ID1 01:C304 9.89 .096 1.72 5.26 .000
05801> +ID2 03:toCW1 .05 .065 1.00 41.21 .000
05802> +ID3 05:toCW2 .20 .219 1.00 23.68 .000
05803> +ID4 07:toCW3 .07 .114 1.00 37.44 .000
05804> +ID5 09:toCW4 .10 .105 1.00 54.39 .000
05805> =====

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05806> SUM 10:CENTER-W 10.31 .506 1.00 6.47 .000
05807>
05808> NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
05809>
05810> -----
05811> 001:0249-----
05812>
05813> | ROUTE RESERVOIR | Requested routing time step = 1.0 min.
05814> | IN>10: (CENTER)
05815> | OUT<01: (CW-SSD) |
05816> =====
05817> OUTFLOW STORAGE TABLE
05818> (cms) (ha.m.) | (cms) (ha.m.)
05819> .000 .000E+00 | .222 .640E+00
05820> .000 .3700E+00 | .000 .0000E+00
05821>
05822> ROUTING RESULTS AREA QPEAK TPEAK R.V.
05823> (ha) (cms) (hrs) (mm)
05824> INFLOW >10: (CENTER) 10.31 .506 1.000 6.471
05825> OUTFLOW<01: (CW-SSD) 10.31 .000 .000 .000
05826> OVERFLOW<03: (toWT1 ) .00 .000 .000 .000
05827>
05828> TOTAL NUMBER OF SIMULATED OVERFLOWS = 0
05829> CUMULATIVE TIME OF OVERFLOWS (hours) = .00
05830> PERCENTAGE OF TIME OVERFLOWING (%) = .00
05831>
05832> PEAK FLOW REDUCTION [Qout/Qin](%) = .000
05833> TIME SHIFT OF PEAK FLOW (min)= -60.00
05834> MAXIMUM STORAGE USED (ha.m.)= .6669E-01
05835>
05836> *** WARNING: Outflow volume is less than inflow volume.
05837> -----
05838>
05839> -----
05840> | CALIB STANDHYD | Area (ha)= .44
05841> | 05:C207 DT= 1.00 | Total Imp(%)= 35.00 Dir. Conn.(%)= 25.00
05842>
05843> IMPERVIOUS PERVIOUS (i)
05844> Surface Area (ha)= .15 .29
05845> Dep. Storage (mm)= 2.00 5.00
05846> Average Slope (%)= 1.00 2.00
05847> Length (m)= 90.00 25.00
05848> Mannings n = .013 .250
05849>
05850> Max.eff.Inten.(mm/hr)= 205.33 18.85
05851> over (min) 2.00 12.00
05852> Storage Coeff. (min)= 1.80 (ii) 12.17 (ii)
05853> Unit Hyd. Tpeak (min)= 2.00 12.00
05854> Unit Hyd. peak (cms)= .60 .09
05855>
05856> PEAK FLOW (cms)= .06 .01 *TOTALS*
05857> TIME TO PEAK (hrs)= 1.00 1.25 1.000
05858> RUNOFF VOLUME (mm)= 59.64 8.18 21.044
05859> TOTAL RAINFALL (mm)= 61.64 61.64 61.643
05860> RUNOFF COEFFICIENT = .97 .13 .341
05861>
05862> (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
05863> CN* = 39.0 Ia = Dep. Storage (Above)
05864> (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
05865> THAN THE STORAGE COEFFICIENT.
05866> (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
05867>
05868> -----
05869> 001:0251-----
05870>
05871> | COMPUTE DUALHYD | Average inlet capacities [CINLET] = .064 (cms)
05872> | TotalHyd 05:C207 | Number of inlets in system [NINLET] = 1
05873> | | Total minor system capacity = .064 (cms)
05874> | | Total major system storage [TMJSTO] = 0. (cu.m.)
05875>
05876> ID: NHYD AREA QPEAK TPEAK R.V. DWF
05877> (ha) (cms) (hrs) (mm) (cms)
05878> TOTAL HYD. 05:C207 .44 .061 1.000 21.044 .000
05879> =====
05880> MAJOR SYST 09:toET1 .00 .000 .000 .000 .000
05881> MINOR SYST 07:toSWMF .44 .061 1.000 21.044 .000
05882>
05883> NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
05884>
05885> -----
05886> 001:0252-----
05887>
05888> | CALIB STANDHYD | Area (ha)= .93
05889> | 05:C208 DT= 1.00 | Total Imp(%)= 35.00 Dir. Conn.(%)= 25.00
05890>
05891> IMPERVIOUS PERVIOUS (i)
05892> Surface Area (ha)= .33 .60
05893> Dep. Storage (mm)= 2.00 5.00
05894> Average Slope (%)= 1.00 2.00
05895> Length (m)= 90.00 25.00
05896> Mannings n = .013 .250
05897>
05898> Max.eff.Inten.(mm/hr)= 205.33 18.85
05899> over (min) 2.00 12.00
05900> Storage Coeff. (min)= 1.80 (ii) 12.17 (ii)
05901> Unit Hyd. Tpeak (min)= 2.00 12.00
05902> Unit Hyd. peak (cms)= .60 .09
05903>
05904> PEAK FLOW (cms)= .12 .02 *TOTALS*
05905> TIME TO PEAK (hrs)= 1.00 1.25 1.000
05906> RUNOFF VOLUME (mm)= 59.64 8.18 21.044
05907> TOTAL RAINFALL (mm)= 61.64 61.64 61.643
05908> RUNOFF COEFFICIENT = .97 .13 .341
05909>
05910> (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
05911> CN* = 39.0 Ia = Dep. Storage (Above)
05912> (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
05913> THAN THE STORAGE COEFFICIENT.
05914> (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
05915>
05916> -----
05917> 001:0253-----
05918>
05919> | COMPUTE DUALHYD | Average inlet capacities [CINLET] = .119 (cms)
05920> | TotalHyd 05:C208 | Number of inlets in system [NINLET] = 1
05921> | | Total minor system capacity = .119 (cms)
05922> | | Total major system storage [TMJSTO] = 0. (cu.m.)
05923>
05924> ID: NHYD AREA QPEAK TPEAK R.V. DWF
05925> (ha) (cms) (hrs) (mm) (cms)
05926> TOTAL HYD. 05:C208 .93 .128 1.000 21.044 .000
05927> =====
05928> MAJOR SYST 03:toE2 .00 .012 1.000 21.044 .000
05929> MINOR SYST 01:toSWMF .93 .119 .983 21.044 .000
05930>
05931> NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
05932>
05933> -----
05934> 001:0254-----
05935>
05936> | ADD HYD (toSWMF1A ) | ID: NHYD AREA QPEAK TPEAK R.V. DWF
05937> (ha) (cms) (hrs) (mm) (cms)
05938> ID1 01:toSWMF6 .93 .119 .98 21.04 .000
05939> +ID2 02:toSWMF1 .38 .077 .95 41.21 .000
05940> +ID3 04:toSWMF2 3.80 .440 .95 23.68 .000

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05941> +ID4 06:toswmf3 1.07 .237 .95 37.44 .000
05942> +ID5 07:toswmf4 .44 .061 1.00 21.04 .000
05943> +ID6 08:toswmf5 .17 .025 .87 54.39 .000
05944> =====
05945> SUM 05:toswmf1A 6.79 .959 1.00 27.09 .000
05946>
05947> NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
05948> -----
05949>
05950> 001:0255-----
05951>
05952> | CALIB STANDHYD | Area (ha)= 12.10
05953> | 01:C302 DT= 1.00 | Total Imp(%)= 41.00 Dir. Conn.(%)= 31.00
05954> -----
05955> IMPERVIOUS PERVIOUS (i)
05956> Surface Area (ha)= 4.96 7.14
05957> Dep. Storage (mm)= 2.00 5.00
05958> Average Slope (%)= 1.00 2.00
05959> Length (m)= 90.00 25.00
05960> Mannings n = .013 .250
05961>
05962> Max.eff.Inten.(mm/hr)= 205.33 19.39
05963> over (min) 2.00 12.00
05964> Storage Coeff. (min)= 1.80 (ii) 12.06 (ii)
05965> Unit Hyd. Tpeak (min)= 2.00 12.00
05966> Unit Hyd. peak (cms)= .60 .09
05967>
05968> PEAK FLOW (cms)= 2.01 .23 *TOTALS*
05969> TIME TO PEAK (hrs)= 1.00 1.25 1.000 (iii)
05970> RUNOFF VOLUME (mm)= 59.64 8.29 24.208
05971> TOTAL RAINFALL (mm)= 61.64 61.64 61.643
05972> RUNOFF COEFFICIENT = .97 .13 .393
05973>
05974> (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
05975> CN* = 39.0 Ia = Dep. Storage (Above)
05976> (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
05977> THAN THE STORAGE COEFFICIENT.
05978> (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
05979> -----
05980>
05981> 001:0256-----
05982>
05983> | CALIB STANDHYD | Area (ha)= 1.29
05984> | 02:C203 DT= 1.00 | Total Imp(%)= 68.00 Dir. Conn.(%)= 66.00
05985> -----
05986> IMPERVIOUS PERVIOUS (i)
05987> Surface Area (ha)= .88 .41
05988> Dep. Storage (mm)= 2.00 5.00
05989> Average Slope (%)= .50 2.00
05990> Length (m)= 100.00 100.00
05991> Mannings n = .013 .250
05992>
05993> Max.eff.Inten.(mm/hr)= 205.33 9.25
05994> over (min) 2.00 34.00
05995> Storage Coeff. (min)= 2.36 (ii) 34.06 (ii)
05996> Unit Hyd. Tpeak (min)= 2.00 34.00
05997> Unit Hyd. peak (cms)= .50 .03
05998>
05999> PEAK FLOW (cms)= .43 .01 *TOTALS*
06000> TIME TO PEAK (hrs)= 1.00 1.67 1.000
06001> RUNOFF VOLUME (mm)= 59.64 7.52 41.922
06002> TOTAL RAINFALL (mm)= 61.64 61.64 61.643
06003> RUNOFF COEFFICIENT = .97 .12 .680
06004>
06005> (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
06006> CN* = 39.0 Ia = Dep. Storage (Above)
06007> (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
06008> THAN THE STORAGE COEFFICIENT.
06009> (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
06010> -----
06011>
06012> 001:0257-----
06013>
06014> | ADD HYD (toswmf2A ) | ID: NHYD AREA QPEAK TPEAK R.V. DWF
06015> |-----| (ha) (cms) (hrs) (mm) (cms)
06016> | ID1 01:C302 12.10 2.059 1.00 24.21 .000
06017> | +ID2 02:C203 1.29 .435 1.00 41.92 .000
06018> | +ID3 05:toswmf1A 6.79 .959 1.00 27.09 .000
06019> |-----|
06020> | SUM 04:toswmf2A 20.18 3.452 1.00 26.31 .000
06021>
06022> NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
06023> -----
06024>
06025> 001:0258-----
06026>
06027> | ROUTE RESERVOIR |
06028> | INP<04: (toswmf) | Requested routing time step = 1.0 min.
06029> | OUT<01: (SWMF) |
06030> =====
06031> | OUTFLOW STORAGE | OUTFLOW STORAGE
06032> | (cms) (ha.m.) | (cms) (ha.m.)
06033> | .000 .0000E+00 | .340 .2740E+00
06034> | .011 .9200E-01 | .697 .3140E+00
06035> | .015 .6000E-01 | 1.206 .3540E+00
06036> | .019 .9200E-01 | 1.880 .3960E+00
06037> | .022 .1260E+00 | 2.734 .4380E+00
06038> | .024 .1610E+00 | 3.779 .4820E+00
06039> | .027 .1980E+00 | 5.029 .5260E+00
06040> | .120 .2360E+00 | .000 .0000E+00
06041>
06042> ROUTING RESULTS AREA QPEAK TPEAK R.V.
06043> |-----| (ha) (cms) (hrs) (mm)
06044> | INFLOW<04: (toswmf) 20.18 3.452 1.000 26.309
06045> | OUTFLOW<01: (SWMF) 20.18 .684 1.433 26.309
06046> | OVERFLOW<02: (OverQ) .00 .000 .000 .000
06047>
06048> TOTAL NUMBER OF SIMULATED OVERFLOWS = 0
06049> CUMULATIVE TIME OF OVERFLOWS (hours)= .00
06050> PERCENTAGE OF TIME OVERFLOWING (%)= .00
06051>
06052> PEAK FLOW REDUCTION [Qout/Qin] (%)= 19.810
06053> TIME SHIFT OF PEAK FLOW (min)= 26.00
06054> MAXIMUM STORAGE USED (ha.m.)= .3125E+00
06055> -----
06056>
06057> 001:0259-----
06058>
06059> | CALIB STANDHYD | Area (ha)= 18.54
06060> | 04:EX-2 DT= 1.00 | Total Imp(%)= 35.00 Dir. Conn.(%)= 25.00
06061> -----
06062> IMPERVIOUS PERVIOUS (i)
06063> Surface Area (ha)= 12.05 9.00
06064> Dep. Storage (mm)= 2.00 5.00
06065> Average Slope (%)= 1.00 2.00
06066> Length (m)= 90.00 50.00
06067> Mannings n = .013 .250
06068>
06069> Max.eff.Inten.(mm/hr)= 205.33 15.34
06070> over (min) 2.00 19.00
06071> Storage Coeff. (min)= 1.80 (ii) 18.88 (ii)
06072> Unit Hyd. Tpeak (min)= 2.00 19.00
06073> Unit Hyd. peak (cms)= .60 .06
06074>
06075> PEAK FLOW (cms)= 2.49 .30 *TOTALS*
06076> TIME TO PEAK (hrs)= 1.00 1.25 1.000 (iii)
06077> RUNOFF VOLUME (mm)= 59.64 8.29 24.208
06078> TOTAL RAINFALL (mm)= 61.64 61.64 61.643
06079> RUNOFF COEFFICIENT = .97 .13 .393
06080>
06081> (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
06082> CN* = 39.0 Ia = Dep. Storage (Above)
06083> (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
06084> THAN THE STORAGE COEFFICIENT.
06085> (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
06086> -----
06087>
06088> 001:0260-----
06089>
06090> | CALIB STANDHYD | Area (ha)= .51
06091> | 05:C209 DT= 1.00 | Total Imp(%)= 61.00 Dir. Conn.(%)= 55.00
06092> -----
06093> IMPERVIOUS PERVIOUS (i)
06094> Surface Area (ha)= .31 .20
06095> Dep. Storage (mm)= 2.00 5.00
06096> Average Slope (%)= 1.00 2.00
06097> Length (m)= 90.00 10.00
06098> Mannings n = .013 .250
06099>
06100> Max.eff.Inten.(mm/hr)= 205.33 21.79
06101> over (min) 2.00 7.00
06102> Storage Coeff. (min)= 1.80 (ii) 7.45 (ii)
06103> Unit Hyd. Tpeak (min)= 2.00 7.00
06104> Unit Hyd. peak (cms)= .60 .16
06105>
06106> PEAK FLOW (cms)= .15 .01 *TOTALS*
06107> TIME TO PEAK (hrs)= 1.00 1.15 1.000
06108> RUNOFF VOLUME (mm)= 59.64 8.18 36.483
06109> TOTAL RAINFALL (mm)= 61.64 61.64 61.643
06110> RUNOFF COEFFICIENT = .97 .13 .592
06111>
06112> (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
06113> CN* = 39.0 Ia = Dep. Storage (Above)
06114> (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
06115> THAN THE STORAGE COEFFICIENT.
06116> (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
06117> -----
06118>
06119> 001:0261-----
06120>
06121> | COMPUTE DUALHYD | Average inlet capacities [CINLET] = .109 (cms)
06122> | TotalHyd 05:C209 | Number of inlets in system [NINLET] = 1
06123> |-----| Total minor system capacity = .109 (cms)
06124> |-----| Total major system storage [TMJSTO] = 0. (cu.m.)
06125>
06126> ID: NHYD AREA QPEAK TPEAK R.V. DWF
06127> |-----| (ha) (cms) (hrs) (mm) (cms)
06128> | TOTAL HYD. 05:C209 .51 .154 1.000 36.483 .000
06129> |-----|
06130> | MAJOR SYST 07:toET3 .02 .044 1.000 36.483 .000
06131> | MINOR SYST 06:toWT2 .49 .109 .950 36.483 .000
06132>
06133> NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
06134> -----
06135>
06136> 001:0262-----
06137>
06138> | ADD HYD (EAST-T ) | ID: NHYD AREA QPEAK TPEAK R.V. DWF
06139> |-----| (ha) (cms) (hrs) (mm) (cms)
06140> | ID1 01:SWMF 20.18 .684 1.43 26.31 .000
06141> | +ID2 02:OverQ .00 .000 .00 .00 .000
06142> | +ID3 03:toET2 .00 .010 1.00 21.04 .000
06143> | +ID4 04:EX-2 18.54 2.518 1.00 21.04 .000
06144> | +ID5 07:toET3 .02 .044 1.00 36.48 .000
06145> | +ID6 09:toET1 .00 .000 .00 .00 .000
06146> |-----|
06147> | SUM 05:EAST-T 38.75 2.596 1.00 23.80 .000
06148>
06149> NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
06150> -----
06151>
06152> 001:0263-----
06153>
06154> | CALIB STANDHYD | Area (ha)= .39
06155> | 01:C210 DT= 1.00 | Total Imp(%)= 90.00 Dir. Conn.(%)= 90.00
06156> -----
06157> IMPERVIOUS PERVIOUS (i)
06158> Surface Area (ha)= .35 .04
06159> Dep. Storage (mm)= 2.00 5.00
06160> Average Slope (%)= 1.00 2.00
06161> Length (m)= 90.00 10.00
06162> Mannings n = .013 .250
06163>
06164> Max.eff.Inten.(mm/hr)= 205.33 15.80
06165> over (min) 2.00 8.00
06166> Storage Coeff. (min)= 1.80 (ii) 8.22 (ii)
06167> Unit Hyd. Tpeak (min)= 2.00 8.00
06168> Unit Hyd. peak (cms)= .60 .14
06169>
06170> PEAK FLOW (cms)= .19 .00 *TOTALS*
06171> TIME TO PEAK (hrs)= 1.00 1.17 1.000
06172> RUNOFF VOLUME (mm)= 59.64 7.07 54.385
06173> TOTAL RAINFALL (mm)= 61.64 61.64 61.643
06174> RUNOFF COEFFICIENT = .97 .11 .882
06175>
06176> (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
06177> CN* = 39.0 Ia = Dep. Storage (Above)
06178> (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
06179> THAN THE STORAGE COEFFICIENT.
06180> (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
06181> -----
06182>
06183> 001:0264-----
06184>
06185> | CALIB STANDHYD | Area (ha)= .27
06186> | 02:C307 DT= 1.00 | Total Imp(%)= 90.00 Dir. Conn.(%)= 1.00
06187> -----
06188> IMPERVIOUS PERVIOUS (i)
06189> Surface Area (ha)= .24 .03
06190> Dep. Storage (mm)= 2.00 5.00
06191> Average Slope (%)= 1.00 2.00
06192> Length (m)= 90.00 10.00
06193> Mannings n = .013 .250
06194>
06195> Max.eff.Inten.(mm/hr)= 205.33 1279.64
06196> over (min) 2.00 3.00
06197> Storage Coeff. (min)= 1.80 (ii) 2.91 (ii)
06198> Unit Hyd. Tpeak (min)= 2.00 3.00
06199> Unit Hyd. peak (cms)= .60 .38
06200>
06201> PEAK FLOW (cms)= .00 .07 *TOTALS*
06202> TIME TO PEAK (hrs)= 1.00 1.02 1.017
06203> RUNOFF VOLUME (mm)= 59.64 36.91 37.138
06204> TOTAL RAINFALL (mm)= 61.64 61.64 61.643
06205> RUNOFF COEFFICIENT = .97 .60 .602
06206>
06207> (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
06208> CN* = 39.0 Ia = Dep. Storage (Above)
06209> (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
06210> THAN THE STORAGE COEFFICIENT.

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06076> TIME TO PEAK (hrs)= 1.00 1.38 1.000
06077> RUNOFF VOLUME (mm)= 59.64 8.18 21.044
06078> TOTAL RAINFALL (mm)= 61.64 61.64 61.643
06079> RUNOFF COEFFICIENT = .97 .13 .341
06080>
06081> (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
06082> CN* = 39.0 Ia = Dep. Storage (Above)
06083> (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
06084> THAN THE STORAGE COEFFICIENT.
06085> (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
06086> -----
06087>
06088> 001:0260-----
06089>
06090> | CALIB STANDHYD | Area (ha)= .51
06091> | 05:C209 DT= 1.00 | Total Imp(%)= 61.00 Dir. Conn.(%)= 55.00
06092> -----
06093> IMPERVIOUS PERVIOUS (i)
06094> Surface Area (ha)= .31 .20
06095> Dep. Storage (mm)= 2.00 5.00
06096> Average Slope (%)= 1.00 2.00
06097> Length (m)= 90.00 10.00
06098> Mannings n = .013 .250
06099>
06100> Max.eff.Inten.(mm/hr)= 205.33 21.79
06101> over (min) 2.00 7.00
06102> Storage Coeff. (min)= 1.80 (ii) 7.45 (ii)
06103> Unit Hyd. Tpeak (min)= 2.00 7.00
06104> Unit Hyd. peak (cms)= .60 .16
06105>
06106> PEAK FLOW (cms)= .15 .01 *TOTALS*
06107> TIME TO PEAK (hrs)= 1.00 1.15 1.000
06108> RUNOFF VOLUME (mm)= 59.64 8.18 36.483
06109> TOTAL RAINFALL (mm)= 61.64 61.64 61.643
06110> RUNOFF COEFFICIENT = .97 .13 .592
06111>
06112> (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
06113> CN* = 39.0 Ia = Dep. Storage (Above)
06114> (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
06115> THAN THE STORAGE COEFFICIENT.
06116> (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
06117> -----
06118>
06119> 001:0261-----
06120>
06121> | COMPUTE DUALHYD | Average inlet capacities [CINLET] = .109 (cms)
06122> | TotalHyd 05:C209 | Number of inlets in system [NINLET] = 1
06123> |-----| Total minor system capacity = .109 (cms)
06124> |-----| Total major system storage [TMJSTO] = 0. (cu.m.)
06125>
06126> ID: NHYD AREA QPEAK TPEAK R.V. DWF
06127> |-----| (ha) (cms) (hrs) (mm) (cms)
06128> | TOTAL HYD. 05:C209 .51 .154 1.000 36.483 .000
06129> |-----|
06130> | MAJOR SYST 07:toET3 .02 .044 1.000 36.483 .000
06131> | MINOR SYST 06:toWT2 .49 .109 .950 36.483 .000
06132>
06133> NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
06134> -----
06135>
06136> 001:0262-----
06137>
06138> | ADD HYD (EAST-T ) | ID: NHYD AREA QPEAK TPEAK R.V. DWF
06139> |-----| (ha) (cms) (hrs) (mm) (cms)
06140> | ID1 01:SWMF 20.18 .684 1.43 26.31 .000
06141> | +ID2 02:OverQ .00 .000 .00 .00 .000
06142> | +ID3 03:toET2 .00 .010 1.00 21.04 .000
06143> | +ID4 04:EX-2 18.54 2.518 1.00 21.04 .000
06144> | +ID5 07:toET3 .02 .044 1.00 36.48 .000
06145> | +ID6 09:toET1 .00 .000 .00 .00 .000
06146> |-----|
06147> | SUM 05:EAST-T 38.75 2.596 1.00 23.80 .000
06148>
06149> NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
06150> -----
06151>
06152> 001:0263-----
06153>
06154> | CALIB STANDHYD | Area (ha)= .39
06155> | 01:C210 DT= 1.00 | Total Imp(%)= 90.00 Dir. Conn.(%)= 90.00
06156> -----
06157> IMPERVIOUS PERVIOUS (i)
06158> Surface Area (ha)= .35 .04
06159> Dep. Storage (mm)= 2.00 5.00
06160> Average Slope (%)= 1.00 2.00
06161> Length (m)= 90.00 10.00
06162> Mannings n = .013 .250
06163>
06164> Max.eff.Inten.(mm/hr)= 205.33 15.80
06165> over (min) 2.00 8.00
06166> Storage Coeff. (min)= 1.80 (ii) 8.22 (ii)
06167> Unit Hyd. Tpeak (min)= 2.00 8.00
06168> Unit Hyd. peak (cms)= .60 .14
06169>
06170> PEAK FLOW (cms)= .19 .00 *TOTALS*
06171> TIME TO PEAK (hrs)= 1.00 1.17 1.000
06172> RUNOFF VOLUME (mm)= 59.64 7.07 54.385
06173> TOTAL RAINFALL (mm)= 61.64 61.64 61.643
06174> RUNOFF COEFFICIENT = .97 .11 .882
06175>
06176> (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
06177> CN* = 39.0 Ia = Dep. Storage (Above)
06178> (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
06179> THAN THE STORAGE COEFFICIENT.
06180> (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
06181> -----
06182>
06183> 001:0264-----
06184>
06185> | CALIB STANDHYD | Area (ha)= .27
06186> | 02:C307 DT= 1.00 | Total Imp(%)= 90.00 Dir. Conn.(%)= 1.00
06187> -----
06188> IMPERVIOUS PERVIOUS (i)
06189> Surface Area (ha)= .24 .03
06190> Dep. Storage (mm)= 2.00 5.00
06191> Average Slope (%)= 1.00 2.00
06192> Length (m)= 90.00 10.00
06193> Mannings n = .013 .250
06194>
06195> Max.eff.Inten.(mm/hr)= 205.33 1279.64
06196> over (min) 2.00 3.00
06197> Storage Coeff. (min)= 1.80 (ii) 2.91 (ii)
06198> Unit Hyd. Tpeak (min)= 2.00 3.00
06199> Unit Hyd. peak (cms)= .60 .38
06200>
06201> PEAK FLOW (cms)= .00 .07 *TOTALS*
06202> TIME TO PEAK (hrs)= 1.00 1.02 1.017
06203> RUNOFF VOLUME (mm)= 59.64 36.91 37.138
06204> TOTAL RAINFALL (mm)= 61.64 61.64 61.643
06205> RUNOFF COEFFICIENT = .97 .60 .602
06206>
06207> (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
06208> CN* = 39.0 Ia = Dep. Storage (Above)
06209> (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
06210> THAN THE STORAGE COEFFICIENT.

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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>
06232> PEAK FLOW (cms)= .80 .06 .816 (iii)
06233> TIME TO PEAK (hrs)= 1.00 1.17 1.000 1
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) (mm)
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 1.500 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) (mm)
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 | C= .871
06324>
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 | .82 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> *****

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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>
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>
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) (mm)
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

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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>
06492> PEAK FLOW (cms)= .49 .03 *TOTALS*
06493> TIME TO PEAK (hrs)= 1.00 1.00
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> | 01:C103 DT= 1.00 | (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 NASHDY | 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>
06553> PEAK FLOW (cms)= .00 .07 *TOTALS*
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>
06584> PEAK FLOW (cms)= .00 .08 *TOTALS*
06585> TIME TO PEAK (hrs)= 1.00 1.08 .077 (iii)
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> | 01:C103 DT= 1.00 | (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:C103 DT= 1.00 | Total Imp(%)= 75.00 Dir. Conn.(%)= 1.00
06614>
06615> IMPERVIOUS PERVIOUS (i)

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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>
06628> PEAK FLOW (cms)= .00 .02 *TOTALS*
06629> TIME TO PEAK (hrs)= 1.00 1.08 .024 (iii)
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> *****
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>
06664> PEAK FLOW (cms)= 1.75 .26 *TOTALS*
06665> TIME TO PEAK (hrs)= 1.00 1.22 1.804 (iii)
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)= 1.15 1.29
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>
06695> PEAK FLOW (cms)= .07 .01 *TOTALS*
06696> TIME TO PEAK (hrs)= 1.00 1.22 .069 (iii)
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.cm.)
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>
06743> PEAK FLOW (cms)= .14 .03 *TOTALS*
06744> TIME TO PEAK (hrs)= 1.00 1.22 1.146 (iii)
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)

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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>
06791> PEAK FLOW (cms)= .49 .01 *TOTALS*
06792> TIME TO PEAK (hrs)= 1.00 1.58 .490 (iii)
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 ) |
06823> ===== OUTFLOW STORAGE TABLE =====
06824> OUTFLOW (ha.m.) | OUTFLOW STORAGE (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> PEAK FLOW REDUCTION [Qout/Qin] (%) = 10.387
06845> TIME SHIFT OF PEAK FLOW (min)= 44.00
06846> MAXIMUM STORAGE USED (ha.m.)=.2597E+00
06847>
06848> -----
06849> 001:0292-----
06850>
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>
06868> PEAK FLOW (cms)= 2.79 .41 *TOTALS*
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> -----

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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>
06899> PEAK FLOW (cms)= .17 .01 *TOTALS*
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>
06963> PEAK FLOW (cms)= .21 .00 *TOTALS*
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 NASHHYD | 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>
07011> PEAK FLOW (cms)= .00 .08 *TOTALS*
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> |-----|-----|-----|-----|-----|-----|
07028> | ID1 01:C210 | | (ha) (cms) (hrs) (mm) (cms)
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> |-----|-----|-----|-----|-----|-----|
07043> | U.H. Tp (hrs)= .510
07044>
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> |-----|-----|-----|-----|-----|-----|
07060> | U.H. Tp (hrs)= .480
07061>
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> |-----|-----|-----|-----|-----|-----|
07076> | ID1 01:C201 | | (ha) (cms) (hrs) (mm) (cms)
07077> | +ID2 02:C204 | | 6.96 .082 1.72 6.31 .000
07078> | +ID2 02:C204 | | 2.04 .057 1.67 14.08 .000
07079> |-----|-----|-----|-----|-----|-----|
07080> | SUM 03:NORTH-W | | 9.00 .140 1.70 8.07 .000
07081>
07082> NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
07083> -----
07084>
07085> 001:0303-----
07086>
07087> | CALIB NASHYD | Area (ha)= 11.96 Curve Number (CN)=44.00
07088> | 01:C205 DT= 1.00 | Ia (mm)= 8.000 # of Linear Res. (N)= 3.00
07089> |-----|-----|-----|-----|-----|-----|
07090> | U.H. Tp (hrs)= .870
07091>
07091> Unit Hyd Qpeak (cms)= .525
07092>
07093> PEAK FLOW (cms)= .154 (i)
07094> TIME TO PEAK (hrs)= 2.183
07095> RUNOFF VOLUME (mm)= 9.856
07096> TOTAL RAINFALL (mm)= 69.590
07097> RUNOFF COEFFICIENT = .142
07098>
07099> (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
07100> -----
07101>
07102> 001:0304-----
07103>
07104> | CALIB STANDHYD | Area (ha)= .61
07105> | 02:C108 DT= 1.00 | Total Imp(%)= 75.00 Dir. Conn.(%)= 1.00
07106> |-----|-----|-----|-----|-----|-----|
07107> | IMPERVIOUS PERVIOUS (i)
07108> | Surface Area (ha)= .46 .15
07109> | Dep. Storage (mm)= 2.00 5.00
07110> | Average Slope (%)= 1.00 2.00
07111> | Length (m)= 90.00 40.00
07112> | Mannings n = .013 .250
07113>
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>
07119> PEAK FLOW (cms)= .00 .09 *TOTALS*
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> |-----|-----|-----|-----|-----|-----|
07136> | ID1 01:C205 | | (ha) (cms) (hrs) (mm) (cms)
07137> | +ID2 02:C108 | | 11.96 .154 2.18 9.86 .000
07138> | +ID2 02:C108 | | .61 .087 1.08 28.08 .000
07139> |-----|-----|-----|-----|-----|-----|
07140> | SUM 04:CENTER-W | | 12.57 .162 2.15 10.74 .000
07141>
07142> NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
07143> -----
07144>
07145> 001:0306-----
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

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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>
07167> PEAK FLOW (cms)= .16 .01 *TOTALS*
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> |-----|-----|-----|-----|-----|-----|
07185> | Total minor system capacity [TMJSTO] = .077 (cms)
07186> | Total major system storage [TMJSTO] = 0. (cu.m.)
07187>
07188> ID: NHYD AREA QPEAK TPEAK R.V. DWF
07189> | (ha) (cms) (hrs) (mm) (cms)
07190> |-----|-----|-----|-----|-----|-----|
07191> | TOTAL HYD. 01:B100 | .43 .160 1.000 47.329 .000
07192>
07193> MAJOR SYST 03:toCW1 .06 .083 1.000 47.329 .000
07194> MINOR SYST 02:toSWMF .37 .077 .933 47.329 .000
07195>
07196> NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
07197> -----
07198>
07199> 001:0308-----
07200>
07201> | CALIB STANDHYD | Area (ha)= 4.00
07202> | 01:C303 DT= 1.00 | Total Imp(%)= 40.00 Dir. Conn.(%)= 30.00
07203> |-----|-----|-----|-----|-----|-----|
07204> | IMPERVIOUS PERVIOUS (i)
07205> | Surface Area (ha)= 1.60 2.40
07206> | Dep. Storage (mm)= 2.00 5.00
07207> | Average Slope (%)= 1.00 2.00
07208> | Length (m)= 90.00 25.00
07209> | Mannings n = .013 .250
07210>
07210> Max.eff.Inten.(mm/hr)= 228.89 25.69
07211> | over (min)= 2.00 11.00
07212> | Storage Coeff. (min)= 1.72 (ii) 10.89 (ii)
07213> | Unit Hyd. Tpeak (min)= 2.00 11.00
07214> | Unit Hyd. peak (cms)= .61 .10
07215>
07216> PEAK FLOW (cms)= .72 .11 *TOTALS*
07217> | TIME TO PEAK (hrs)= 1.00 1.22 1.000
07218> | RUNOFF VOLUME (mm)= 67.59 10.51 27.633
07219> | TOTAL RAINFALL (mm)= 69.59 69.59 69.590
07220> | RUNOFF COEFFICIENT = .97 .15 .397
07221>
07222> (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
07223> CN* = 39.0 Ia = Dep. Storage (Above)
07224> (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
07225> THAN THE STORAGE COEFFICIENT.
07226> (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
07227> -----
07228>
07229> 001:0309-----
07230>
07231> | COMPUTE DUALHYD | Average inlet capacities [CINLET] = .440 (cms)
07232> | TotalHyd 01:C303 | Number of inlets in system [NINLET] = 1
07233> |-----|-----|-----|-----|-----|-----|
07234> | Total minor system capacity [TMJSTO] = .440 (cms)
07235> | Total major system storage [TMJSTO] = 0. (cu.m.)
07236>
07237> ID: NHYD AREA QPEAK TPEAK R.V. DWF
07238> | (ha) (cms) (hrs) (mm) (cms)
07239> |-----|-----|-----|-----|-----|-----|
07240> | TOTAL HYD. 01:C303 | 4.00 .747 1.000 27.633 .000
07241>
07242> MAJOR SYST 05:toCW2 .30 .307 1.000 27.633 .000
07243> MINOR SYST 04:toSWMF 3.70 .440 .950 27.633 .000
07244>
07245> NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
07246> -----
07247>
07248> 001:0310-----
07249>
07250> | CALIB STANDHYD | Area (ha)= 1.14
07251> | 01:C309 DT= 1.00 | Total Imp(%)= 62.00 Dir. Conn.(%)= 57.00
07252> |-----|-----|-----|-----|-----|-----|
07253> | IMPERVIOUS PERVIOUS (i)
07254> | Surface Area (ha)= .71 .43
07255> | Dep. Storage (mm)= 2.00 5.00
07256> | Average Slope (%)= 1.00 2.00
07257> | Length (m)= 90.00 25.00
07258> | Mannings n = .013 .250
07259>
07259> Max.eff.Inten.(mm/hr)= 228.89 24.14
07260> | over (min)= 2.00 11.00
07261> | Storage Coeff. (min)= 1.72 (ii) 11.12 (ii)
07262> | Unit Hyd. Tpeak (min)= 2.00 11.00
07263> | Unit Hyd. peak (cms)= .61 .10
07264>
07265> PEAK FLOW (cms)= .39 .02 *TOTALS*
07266> | TIME TO PEAK (hrs)= 1.00 1.22 1.000
07267> | RUNOFF VOLUME (mm)= 67.59 10.20 42.914
07268> | TOTAL RAINFALL (mm)= 69.59 69.59 69.590
07269> | RUNOFF COEFFICIENT = .97 .15 .617
07270>
07271> (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
07272> CN* = 39.0 Ia = Dep. Storage (Above)
07273> (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
07274> THAN THE STORAGE COEFFICIENT.
07275> (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
07276> -----
07277>
07278> 001:0311-----
07279>
07280> | COMPUTE DUALHYD | Average inlet capacities [CINLET] = .237 (cms)
07281> | TotalHyd 01:C309 | Number of inlets in system [NINLET] = 1
07282> |-----|-----|-----|-----|-----|-----|
07283> | Total minor system capacity [TMJSTO] = .237 (cms)
07284> | Total major system storage [TMJSTO] = 0. (cu.m.)
07285>
07286> ID: NHYD AREA QPEAK TPEAK R.V. DWF
07287> | (ha) (cms) (hrs) (mm) (cms)
07288> |-----|-----|-----|-----|-----|-----|
07289> | TOTAL HYD. 01:C309 | 1.14 .396 1.000 42.914 .000
07290>
07291> MAJOR SYST 07:toCW3 .09 .159 1.000 42.914 .000
07292> MINOR SYST 06:toSWMF 1.05 .237 .950 42.914 .000
07293>
07294> 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>
07299> Surface Area (ha)= .24
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>
07311> PEAK FLOW (cms)= .15 .00 *TOTALS*
07312> TIME TO PEAK (hrs)= 1.00 1.32 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 NASHVD | 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:toCENTER-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) | ===== OUTFLOW STORAGE TABLE =====
07378> (cms) (ha.m.) | (cms) (ha.m.)
07379> .000 .0000E+00 | .222 .6400E+00
07380> .000 .3700E+00 | .000 .0000E+00
07381>
07382> ROUTING RESULTS AREA QPEAK TPEAK R.V.
07383> (ha) (cms) (hrs) (mm)
07384> INFLOW >10: (CENTER) 10.45 .674 1.000 8.559
07385> OUTFLOW<01: (CW-SSD) 10.45 .000 .000 .000
07386> OVERFLOW<03: (toWT1 ) .00 .000 .000 .000
07387>
07388> TOTAL NUMBER OF SIMULATED OVERFLOWS = 0
07389> CUMULATIVE TIME OF OVERFLOWS (hours)= .00
07390> PERCENTAGE OF TIME OVERFLOWING (%)= .00
07391>
07392> PEAK FLOW REDUCTION [Qout/Qin](%)= .000
07393> TIME SHIFT OF PEAK FLOW (min)= -60.00
07394> MAXIMUM STORAGE USED (ha.m.)=.8946E-01
07395>
07396> *** WARNING: Outflow volume is less than inflow volume.
07397> -----
07398>
07399> 001:0317-----
07400>
07401>
07402> | CALIB STANDHYD | Area (ha)= .44
07403> | 05:C207 DT= 1.00 | Total Imp(%)= 35.00 Dir. Conn.(%)= 25.00
07404> -----
07405>
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>
07418> PEAK FLOW (cms)= .07 .01 *TOTALS*
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)

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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>
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>
07466> PEAK FLOW (cms)= .14 .03 *TOTALS*
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>
07518> Surface Area (ha)= IMPERVIOUS PERVIOUS (i)
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>
07530> PEAK FLOW (cms)= 2.26 .32 *TOTALS*
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>
07549> Surface Area (ha)= IMPERVIOUS PERVIOUS (i)
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>
07561> *TOTALS*

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07561> PEAK FLOW (cms)= .49 .01 .490 (iii)
07562> TIME TO PEAK (hrs)= 1.00 1.58 1.000
07563> RUNOFF VOLUME (mm)= 67.59 9.59 47.871
07564> TOTAL RAINFALL (mm)= 69.59 69.59 69.590
07565> RUNOFF COEFFICIENT = .97 .14 .688
07566>
07567> (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
07568> CN* = 39.0 Ia = Dep. Storage (Above)
07569> (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
07570> THAN THE STORAGE COEFFICIENT.
07571> (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
07572>
07573>
07574> 001:0324-----
07575>
07576> | ADD HYD (toSWMF2A ) | ID: NHYD AREA QPEAK TPEAK R.V. DWF
07577> | (ha) (cms) (hrs) (mm) (cms)
07578> | ID1 01:C302 12.10 2.332 1.00 28.22 .000
07579> | ID2 02:C203 1.29 .490 1.00 47.87 .000
07580> | ID3 05:toSWMF1A 6.63 .962 .98 31.38 .000
07581>
07582> SUM 04:toSWMF2A 20.02 3.785 1.00 30.53 .000
07583>
07584> NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
07585>
07586>
07587> 001:0325-----
07588>
07589> | ROUTE RESERVOIR | Requested routing time step = 1.0 min.
07590> | IN>04:(toSWMF) |
07591> | OUT<01:(SWMF) |
07592>
07593> ===== OUTFLOW STORAGE TABLE =====
07594> OUTFLOW STORAGE | OUTFLOW STORAGE
07595> (cms) (ha.m.) | (cms) (ha.m.)
07596> .000 .0000E+00 | .340 .2740E+00
07597> .011 .2900E-01 | .697 .3140E+00
07598> .015 .6000E-01 | 1.206 .3540E+00
07599> .019 .9200E-01 | 1.880 .3960E+00
07600> .022 .1260E+00 | 2.734 .4380E+00
07601> .024 .1610E+00 | 3.779 .4820E+00
07602> .027 .1980E+00 | 5.029 .5260E+00
07603> .120 .2360E+00 | .000 .0000E+00
07604>
07605> ROUTING RESULTS AREA QPEAK TPEAK R.V.
07606> (ha) (cms) (hrs) (mm)
07607> INFLOW >04: (toSWMF) 20.02 3.785 1.000 30.533
07608> OUTFLOW<01: (SWMF) 20.02 .977 1.350 30.533
07609> OVERFLOW<02: (OverQ) .00 .000 .000 .000
07610>
07611> TOTAL NUMBER OF SIMULATED OVERFLOWS = 0
07612> CUMULATIVE TIME OF OVERFLOWS (hours) = .00
07613> PERCENTAGE OF TIME OVERFLOWING (%) = .00
07614>
07615> PEAK FLOW REDUCTION [Qout/Qin](%) = 25.821
07616> TIME SHIFT OF PEAK FLOW (min) = 21.00
07617> MAXIMUM STORAGE USED (ha.m.) = .3361E+00
07618>
07619> 001:0326-----
07620>
07621> | CALIB STANDHYD | Area (ha)= 18.54
07622> | 04:EX-2 DT= 1.00 | Total Imp(%)= 35.00 Dir. Conn.(%)= 25.00
07623>
07624> IMPERVIOUS PERVIOUS (i)
07625> Surface Area (ha)= 6.49 12.05
07626> Dep. Storage (mm)= 2.00 5.00
07627> Average Slope (%)= 1.00 2.00
07628> Length (m)= 90.00 50.00
07629> Mannings n = .013 .250
07630>
07631> Max.eff.Inten.(mm/hr)= 228.89 20.84
07632> over (min)= 2.00 17.00
07633> Storage Coeff. (min)= 1.72 (ii) 16.83 (ii)
07634> Unit Hyd. Tpeak (min)= 2.00 17.00
07635> Unit Hyd. peak (cms)= .61 .07
07636>
07637> PEAK FLOW (cms)= 2.79 .41 2.844 (iii)
07638> TIME TO PEAK (hrs)= 1.00 1.000
07639> RUNOFF VOLUME (mm)= 67.59 10.40 24.695
07640> TOTAL RAINFALL (mm)= 69.59 69.59 69.590
07641> RUNOFF COEFFICIENT = .97 .15 .355
07642>
07643> (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
07644> CN* = 39.0 Ia = Dep. Storage (Above)
07645> (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
07646> THAN THE STORAGE COEFFICIENT.
07647> (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
07648>
07649>
07650> 001:0327-----
07651>
07652> | CALIB STANDHYD | Area (ha)= .51
07653> | 05:C209 DT= 1.00 | Total Imp(%)= 61.00 Dir. Conn.(%)= 55.00
07654>
07655> IMPERVIOUS PERVIOUS (i)
07656> Surface Area (ha)= .31 .20
07657> Dep. Storage (mm)= 2.00 5.00
07658> Average Slope (%)= 1.00 2.00
07659> Length (m)= 90.00 10.00
07660> Mannings n = .013 .250
07661>
07662> Max.eff.Inten.(mm/hr)= 228.89 27.82
07663> over (min)= 2.00 7.00
07664> Storage Coeff. (min)= 1.72 (ii) 6.85 (ii)
07665> Unit Hyd. Tpeak (min)= 2.00 7.00
07666> Unit Hyd. peak (cms)= .61 .16
07667>
07668> PEAK FLOW (cms)= .17 .01 1.73 (iii)
07669> TIME TO PEAK (hrs)= 1.00 1.13 1.000
07670> RUNOFF VOLUME (mm)= 67.59 10.40 41.853
07671> TOTAL RAINFALL (mm)= 69.59 69.59 69.590
07672> RUNOFF COEFFICIENT = .97 .15 .601
07673>
07674> (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
07675> CN* = 39.0 Ia = Dep. Storage (Above)
07676> (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
07677> THAN THE STORAGE COEFFICIENT.
07678> (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
07679>
07680>
07681> 001:0328-----
07682>
07683> | COMPUTE DUALHYD | Average inlet capacities [CINLET] = .109 (cms)
07684> | TotalHyd 05:C209 | Number of inlets in system [NINLET] = 1
07685> | Total minor system capacity = .109 (cms)
07686> | Total major system storage [TMJSTO] = 0. (cu.m.)
07687>
07688> ID: NHYD AREA QPEAK TPEAK R.V. DWF
07689> (ha) (cms) (hrs) (mm) (cms)
07690> TOTAL HYD. 05:C209 .51 .173 1.000 41.853 .000
07691>
07692> MAJOR SYST 07:toET3 .04 .064 1.000 41.853 .000
07693> MINOR SYST 06:toWT2 .47 .109 .950 41.853 .000
07694>
07695> NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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07696>
07697> -----
07698> 001:0329-----
07699>
07700> | ADD HYD (EAST-T ) | ID: NHYD AREA QPEAK TPEAK R.V. DWF
07701> | (ha) (cms) (hrs) (mm) (cms)
07702> | ID1 01:SWMF 20.02 .977 1.35 30.53 .000
07703> | ID2 02:OverQ .00 .000 .00 0.00 .000
07704> | ID3 03:toET2 .02 .027 1.00 24.70 .000
07705> | ID4 04:EX-2 18.54 2.844 1.00 24.70 .000
07706> | ID5 07:toET3 .04 .064 1.00 41.85 .000
07707> | ID6 09:toET1 .00 .005 1.00 24.70 .000
07708>
07709> SUM 05:EAST-T 38.61 2.965 1.00 27.74 .000
07710>
07711> NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
07712>
07713>
07714> 001:0330-----
07715>
07716> | CALIB STANDHYD | Area (ha)= .39
07717> | 01:C210 DT= 1.00 | Total Imp(%)= 90.00 Dir. Conn.(%)= 90.00
07718>
07719> IMPERVIOUS PERVIOUS (i)
07720> Surface Area (ha)= .35 .04
07721> Dep. Storage (mm)= 2.00 5.00
07722> Average Slope (%)= 1.00 2.00
07723> Length (m)= 90.00 10.00
07724> Mannings n = .013 .250
07725>
07726> Max.eff.Inten.(mm/hr)= 228.89 20.32
07727> over (min)= 2.00 8.00
07728> Storage Coeff. (min)= 1.72 (ii) 7.53 (ii)
07729> Unit Hyd. Tpeak (min)= 2.00 8.00
07730> Unit Hyd. peak (cms)= .61 .15
07731>
07732> PEAK FLOW (cms)= .21 .00 .212 (iii)
07733> TIME TO PEAK (hrs)= 1.00 1.17 1.000
07734> RUNOFF VOLUME (mm)= 67.59 9.03 61.734
07735> TOTAL RAINFALL (mm)= 69.59 69.59 69.590
07736> RUNOFF COEFFICIENT = .97 .13 .887
07737>
07738> (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
07739> CN* = 39.0 Ia = Dep. Storage (Above)
07740> (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
07741> THAN THE STORAGE COEFFICIENT.
07742> (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
07743>
07744>
07745> 001:0331-----
07746>
07747> | CALIB STANDHYD | Area (ha)= .27
07748> | 02:C307 DT= 1.00 | Total Imp(%)= 90.00 Dir. Conn.(%)= 1.00
07749>
07750> IMPERVIOUS PERVIOUS (i)
07751> Surface Area (ha)= .24 .03
07752> Dep. Storage (mm)= 2.00 5.00
07753> Average Slope (%)= 1.00 2.00
07754> Length (m)= 90.00 10.00
07755> Mannings n = .013 .250
07756>
07757> Max.eff.Inten.(mm/hr)= 228.89 1504.63
07758> over (min)= 2.00 3.00
07759> Storage Coeff. (min)= 1.72 (ii) 2.76 (ii)
07760> Unit Hyd. Tpeak (min)= 2.00 3.00
07761> Unit Hyd. peak (cms)= .61 .40
07762>
07763> PEAK FLOW (cms)= .00 .09 .1017 (iii)
07764> TIME TO PEAK (hrs)= 1.00 1.02 1.017
07765> RUNOFF VOLUME (mm)= 67.59 43.70 43.939
07766> TOTAL RAINFALL (mm)= 69.59 69.59 69.590
07767> RUNOFF COEFFICIENT = .97 .63 .631
07768>
07769> (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
07770> CN* = 39.0 Ia = Dep. Storage (Above)
07771> (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
07772> THAN THE STORAGE COEFFICIENT.
07773> (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
07774>
07775>
07776> 001:0332-----
07777>
07778> | CALIB STANDHYD | Area (ha)= 2.61
07779> | 03:C305 DT= 1.00 | Total Imp(%)= 76.00 Dir. Conn.(%)= 57.00
07780>
07781> IMPERVIOUS PERVIOUS (i)
07782> Surface Area (ha)= 1.98 .63
07783> Dep. Storage (mm)= 2.00 5.00
07784> Average Slope (%)= 1.00 2.00
07785> Length (m)= 90.00 25.00
07786> Mannings n = .013 .250
07787>
07788> Max.eff.Inten.(mm/hr)= 228.89 64.79
07789> over (min)= 2.00 8.00
07790> Storage Coeff. (min)= 1.72 (ii) 8.05 (ii)
07791> Unit Hyd. Tpeak (min)= 2.00 8.00
07792> Unit Hyd. peak (cms)= .61 .14
07793>
07794> PEAK FLOW (cms)= .90 .07 .924 (iii)
07795> TIME TO PEAK (hrs)= 1.00 1.15 1.000
07796> RUNOFF VOLUME (mm)= 67.59 15.46 45.176
07797> TOTAL RAINFALL (mm)= 69.59 69.59 69.590
07798> RUNOFF COEFFICIENT = .97 .22 .649
07799>
07800> (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
07801> CN* = 39.0 Ia = Dep. Storage (Above)
07802> (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
07803> THAN THE STORAGE COEFFICIENT.
07804> (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
07805>
07806>
07807> 001:0333-----
07808>
07809> | COMPUTE DUALHYD | Average inlet capacities [CINLET] = .030 (cms)
07810> | TotalHyd 03:C305 | Number of inlets in system [NINLET] = 1
07811> | Total minor system capacity = .030 (cms)
07812> | Total major system storage [TMJSTO] = 730. (cu.m.)
07813>
07814> ID: NHYD AREA QPEAK TPEAK R.V. DWF
07815> (ha) (cms) (hrs) (mm) (cms)
07816> TOTAL HYD. 03:C305 2.61 .924 1.000 45.176 .000
07817>
07818> MAJOR SYST 07:toWP3 2.38 .159 1.300 45.176 .000
07819> MINOR SYST 04:toPD 2.23 .030 .467 45.215 .000
07820>
07821> NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
07822>
07823> Maximum MAJOR SYSTEM storage used = 730. (cu.m.)
07824>
07825>
07826> 001:0334-----
07827>
07828> | CALIB NASHHYD | Area (ha)= 1.77 Curve Number [CN]=36.00
07829> | 03:C306 DT= 1.00 | Ia (mm)= 8.000 # of Linear Res. (N)= 3.00
07830> | U.H. Tp (hrs)= .580

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07831> Unit Hyd Qpeak (cms)= .117
07832>
07833> PEAK FLOW (cms)= .023 (i)
07834> TIME TO PEAK (hrs)= 1.817
07835> RUNOFF VOLUME (mm)= 7.392
07836> TOTAL RAINFALL (mm)= 69.590
07837> RUNOFF COEFFICIENT = .106
07838>
07839> (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
07840>
07841>
07842>
07843> 001:0335-----
07844>
07845> | ADD HYD (WEST-T ) | ID: NHYD AREA (ha) QPEAK (cms) TPEAK (hrs) R.V. (mm) DWF (cms)
07846> ID1 01:C210 .39 .212 1.00 61.73 .000
07847> +ID2 02:C307 .27 .090 1.02 43.94 .000
07848> +ID3 03:C306 1.77 .023 1.82 7.39 .000
07849> +ID4 04:toPD 2.23 .030 .47 45.21 .000
07850> +ID5 06:toWT2 .47 .109 .95 41.85 .000
07851> +ID6 07:toWT3 .38 .159 1.30 45.18 .000
07852>
07853> SUM 08:WEST-T 5.51 .437 1.00 33.89 .000
07854>
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>
07929> PEAK FLOW (cms)= 3.06 .53 *TOTALS*
07930> TIME TO PEAK (hrs)= 1.00 1.30 3.141 (iii)
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

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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>
07994> PEAK FLOW (cms)= .00 .10 *TOTALS*
07995> TIME TO PEAK (hrs)= 1.00 1.08 .104 (iii)
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 (ha) QPEAK (cms) TPEAK (hrs) R.V. (mm) DWF (cms)
08010> ID1 03:C102 13.09 .231 2.15 13.12 .000
08011> +ID2 04:C108 .61 .104 1.08 32.47 .000
08012>
08013> SUM 05:CENTER-W 13.70 .240 2.12 13.98 .000
08014>
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>
08054> PEAK FLOW (cms)= .54 .03 *TOTALS*
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 (ha) QPEAK (cms) TPEAK (hrs) R.V. (mm) DWF (cms)
08070> ID1 01:EX-1 18.54 3.141 1.00 27.86 .000
08071> +ID2 03:C104 9.17 .358 1.78 22.04 .000
08072> +ID3 04:C105 1.63 .544 1.00 43.23 .000
08073>
08074> SUM 06:EAST-T 29.34 3.693 1.00 26.90 .000
08075>
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

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08101> -----
08102> Surface Area (ha)= IMPERVIOUS PERVIOUS (i)
08103> Dep. Storage (mm)= 2.00 5.00
08104> Average Slope (%)= 1.00 2.00
08105> Length (m)= 90.00 40.00
08106> Mannings n = .013 .250
08107>
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 (iii)
08112> Unit Hyd. Tpeak (min)= 2.00 6.00
08113> Unit Hyd. peak (cms)= .63 .19
08114>
08115> *TOTALS*
08116> PEAK FLOW (cms)= .00 .08 1.083 (iii)
08117> TIME TO PEAK (hrs)= 1.00 1.08 1.083
08118> RUNOFF VOLUME (mm)= 74.22 32.05 32.473
08119> TOTAL RAINFALL (mm)= 76.22 76.22 76.215
08120> RUNOFF COEFFICIENT = .97 .42 .426
08121>
08122> (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
08123> CN* = 39.0 Ia = Dep. Storage (Above)
08124> (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
08125> THAN THE STORAGE COEFFICIENT.
08126> (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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 (iii)
08143> Unit Hyd. Tpeak (min)= 2.00 6.00
08144> Unit Hyd. peak (cms)= .63 .19
08145>
08146> *TOTALS*
08147> PEAK FLOW (cms)= .00 .09 .092 (iii)
08148> TIME TO PEAK (hrs)= 1.00 1.08 1.083
08149> RUNOFF VOLUME (mm)= 74.22 32.05 32.473
08150> TOTAL RAINFALL (mm)= 76.22 76.22 76.215
08151> RUNOFF COEFFICIENT = .97 .42 .426
08152>
08153> (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
08154> CN* = 39.0 Ia = Dep. Storage (Above)
08155> (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
08156> THAN THE STORAGE COEFFICIENT.
08157> (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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> +D1 01:C103 8.73 .341 1.73 20.78 .000
08164> +D2 03:C106 .47 .080 1.08 32.47 .000
08165> +D3 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 (iii)
08187> Unit Hyd. Tpeak (min)= 2.00 6.00
08188> Unit Hyd. peak (cms)= .63 .19
08189>
08190> *TOTALS*
08191> PEAK FLOW (cms)= .00 .03 .029 (iii)
08192> TIME TO PEAK (hrs)= 1.00 1.08 1.083
08193> RUNOFF VOLUME (mm)= 74.22 32.05 32.473
08194> TOTAL RAINFALL (mm)= 76.22 76.22 76.215
08195> RUNOFF COEFFICIENT = .97 .42 .426
08196>
08197> (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
08198> CN* = 39.0 Ia = Dep. Storage (Above)
08199> (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
08200> THAN THE STORAGE COEFFICIENT.
08201> (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
08202> -----
08203> 001:0351-----
08204> *#-----
08205> *# PROPOSED INTERIM DEVELOPMENT CONDITIONS
08206> *#-----
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>
08226> *TOTALS*
08227> PEAK FLOW (cms)= 1.91 .32 1.999 (iii)
08228> TIME TO PEAK (hrs)= 1.00 1.20 1.000
08229> RUNOFF VOLUME (mm)= 74.22 12.54 31.045
08230> TOTAL RAINFALL (mm)= 76.22 76.22 76.215
08231> RUNOFF COEFFICIENT = .97 .16 .407
08232>
08233> (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
08234> CN* = 39.0 Ia = Dep. Storage (Above)
08235> (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
08236> THAN THE STORAGE COEFFICIENT.

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08237> (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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>
08257> *TOTALS*
08258> PEAK FLOW (cms)= .07 .02 .077 (iii)
08259> TIME TO PEAK (hrs)= 1.00 1.20 1.000
08260> RUNOFF VOLUME (mm)= 74.21 12.41 27.865
08261> TOTAL RAINFALL (mm)= 76.22 76.22 76.215
08262> RUNOFF COEFFICIENT = .97 .16 .366
08263>
08264> (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
08265> CN* = 39.0 Ia = Dep. Storage (Above)
08266> (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
08267> THAN THE STORAGE COEFFICIENT.
08268> (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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)= .63 .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>
08305> *TOTALS*
08306> PEAK FLOW (cms)= .15 .03 .162 (iii)
08307> TIME TO PEAK (hrs)= 1.00 1.20 1.000
08308> RUNOFF VOLUME (mm)= 74.22 12.41 27.865
08309> TOTAL RAINFALL (mm)= 76.22 76.22 76.215
08310> RUNOFF COEFFICIENT = .97 .16 .366
08311>
08312> (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
08313> CN* = 39.0 Ia = Dep. Storage (Above)
08314> (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
08315> THAN THE STORAGE COEFFICIENT.
08316> (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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 (%)= 1.00 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>
08353> *TOTALS*
08354> PEAK FLOW (cms)= .54 .01 .539 (iii)
08355> TIME TO PEAK (hrs)= 1.00 1.52 1.000
08356> RUNOFF VOLUME (mm)= 74.21 11.48 52.885
08357> TOTAL RAINFALL (mm)= 76.22 76.22 76.215
08358> RUNOFF COEFFICIENT = .97 .15 .694
08359>
08360> (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
08361> CN* = 39.0 Ia = Dep. Storage (Above)
08362> (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
08363> THAN THE STORAGE COEFFICIENT.
08364> (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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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08371> +ID2 02:C203 1.29 .539 1.00 52.89 .000
08372> +ID3 03:toSWMF1 .43 .064 .97 27.86 .000
08373> +ID4 05:toSWMF2 .90 .119 .97 27.86 .000
08374>
08375> SUM 07:toSWMF 12.28 2.721 1.00 32.99 .000
08376>
08377> NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
08378>
08379>
08380> 001:0358-----
08381>
08382> | ROUTE RESERVOIR |
08383> | IN:07: (toSWMF) |
08384> | OUT:01: (SWMF ) |
08385> ===== OUTFLOW STORAGE TABLE =====
08386> OUTFLOW STORAGE | OUTFLOW STORAGE |
08387> (cms) (ha.m.) | (cms) (ha.m.) |
08388> .000 .0000E+00 | .340 .2740E+00
08389> .011 .2900E-01 | .697 .3140E+00
08390> .015 .6000E-01 | 1.206 .3540E+00
08391> .019 .9200E-01 | 1.880 .3960E+00
08392> .022 .1260E+00 | 2.734 .4380E+00
08393> .024 .1610E+00 | 3.779 .4820E+00
08394> .027 .1980E+00 | 5.029 .5260E+00
08395> .120 .2360E+00 | 1.000 .0000E+00
08396>
08397> ROUTING RESULTS AREA QPEAK TPEAK R.V.
08398> (ha) (cms) (hrs) (mm)
08399> TIME SHIFT OF PEAK FLOW (hours)= 37.00
08400> OVERFLOW<01: (SWMF ) 12.28 .360 1.617 32.993
08401> OVERFLOW<02: (OverQ ) .00 .000 .000 .000
08402>
08403> TOTAL NUMBER OF SIMULATED OVERFLOWS = 0
08404> CUMULATIVE TIME OF OVERFLOWS (hours)= .00
08405> PERCENTAGE OF TIME OVERFLOWING (%)= .00
08406>
08407> PEAK FLOW REDUCTION [Qout/Qin] (%)= 13.222
08408> TIME SHIFT OF PEAK FLOW (hrs)= 37.00
08409> MAXIMUM STORAGE USED (ha.m.)=.2762E+00
08410>
08411>
08412> 001:0359-----
08413>
08414> | CALIB STANDHYD | Area (ha)= 18.54
08415> | 03:EX-2 DT= 1.00 | Total Imp(%)= 35.00 Dir. Conn.(%)= 25.00
08416>
08417>
08418> Surface Area (ha)= IMPERVIOUS PERVIOUS (i)
08419> Dep. Storage (mm)= 2.00 5.00
08420> Average Slope (%)= 1.00 2.00
08421> Length (m)= 90.00 50.00
08422> Mannings n = .013 .250
08423>
08424> Max.eff.Inten.(mm/hr)= 249.64 26.87
08425> over (min) 2.00 15.00
08426> Storage Coeff. (min)= 1.66 (ii) 15.31 (iii)
08427> Unit Hyd. Tpeak (min)= 2.00 15.00
08428> Unit Hyd. peak (cms)= .63 .07
08429>
08430> PEAK FLOW (cms)= 3.06 .53 3.141 (iii)
08431> TIME TO PEAK (hrs)= 1.00 1.30 1.000
08432> RUNOFF VOLUME (mm)= 74.21 12.41 27.865
08433> TOTAL RAINFALL (mm)= 76.22 76.22 76.215
08434> RUNOFF COEFFICIENT = .97 .16 .366
08435>
08436> (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
08437> CN* = 39.0 Ia = Dep. Storage (Above)
08438> (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
08439> THAN THE STORAGE COEFFICIENT.
08440> (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
08441>
08442>
08443>
08444> 001:0360-----
08445>
08446> | CALIB STANDHYD | Area (ha)= .51
08447> | 05:C209 DT= 1.00 | Total Imp(%)= 61.00 Dir. Conn.(%)= 55.00
08448>
08449>
08450> Surface Area (ha)= IMPERVIOUS PERVIOUS (i)
08451> Dep. Storage (mm)= 2.00 5.00
08452> Average Slope (%)= 1.00 2.00
08453> Length (m)= 90.00 10.00
08454> Mannings n = .013 .250
08455>
08456> Max.eff.Inten.(mm/hr)= 249.64 34.56
08457> over (min) 2.00 6.00
08458> Storage Coeff. (min)= 1.66 (ii) 6.36 (iii)
08459> Unit Hyd. Tpeak (min)= 2.00 6.00
08460> Unit Hyd. peak (cms)= .63 .18
08461>
08462> PEAK FLOW (cms)= .19 .01 .192 (iii)
08463> TIME TO PEAK (hrs)= 1.00 1.12 1.000
08464> RUNOFF VOLUME (mm)= 74.21 12.41 46.405
08465> TOTAL RAINFALL (mm)= 76.22 76.22 76.215
08466> RUNOFF COEFFICIENT = .97 .16 .609
08467>
08468> (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
08469> CN* = 39.0 Ia = Dep. Storage (Above)
08470> (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
08471> THAN THE STORAGE COEFFICIENT.
08472> (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
08473>
08474> 001:0361-----
08475>
08476> | COMPUTE DUALHYD | Average inlet capacities [CINLET] = .109 (cms)
08477> | TotalHyd 05:C209 | Number of inlets in system [NINLET] = 1
08478> | Total minor system capacity | Total major system storage [TMJSTO] = .109 (cms)
08479> | Total major system storage [TMJSTO] = 0.(cu.m.)
08480>
08481> ID: NHYD AREA QPEAK TPEAK R.V. DWF
08482> (ha) (cms) (hrs) (mm) (cms)
08483> TOTAL HYD. 05:C209 .51 .192 1.000 46.405 .000
08484>
08485> MAJOR SYST 08:toET3 .05 .082 1.000 46.405 .000
08486> MINOR SYST 07:toWT1 .46 .109 .950 46.405 .000
08487>
08488> NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
08489>
08490>
08491> 001:0362-----
08492>
08493> | ADD HYD (EAST-T ) | ID: NHYD AREA QPEAK TPEAK R.V. DWF
08494> (ha) (cms) (hrs) (mm) (cms)
08495> ID1 01:SWMF 12.28 .360 1.62 32.99 .000
08496> +ID2 02:OverQ .00 .000 .00 .00 .000
08497> +ID3 03:EX-2 18.54 3.141 1.00 27.86 .000
08498> +ID4 04:toET1 .01 .013 1.00 27.86 .000
08499> +ID5 06:toET2 .03 .043 1.00 27.86 .000
08500> +ID6 08:toET3 .05 .082 1.00 46.41 .000
08501>
08502> SUM 05:EAST-T 30.91 3.300 1.00 29.93 .000
08503>
08504> NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
08505>

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08506>
08507> 001:0363-----
08508>
08509> | CALIB STANDHYD | Area (ha)= .39
08510> | 01:C210 DT= 1.00 | Total Imp(%)= 90.00 Dir. Conn.(%)= 90.00
08511>
08512>
08513> Surface Area (ha)= IMPERVIOUS PERVIOUS (i)
08514> Dep. Storage (mm)= 2.00 5.00
08515> Average Slope (%)= 1.00 2.00
08516> Length (m)= 90.00 10.00
08517> Mannings n = .013 .250
08518>
08519> Max.eff.Inten.(mm/hr)= 249.64 25.02
08520> over (min) 2.00 7.00
08521> Storage Coeff. (min)= 1.66 (ii) 7.01 (iii)
08522> Unit Hyd. Tpeak (min)= 2.00 7.00
08523> Unit Hyd. peak (cms)= .63 .16
08524>
08525> PEAK FLOW (cms)= .23 .00 .233 (iii)
08526> TIME TO PEAK (hrs)= 1.00 1.15 1.000
08527> RUNOFF VOLUME (mm)= 74.21 10.83 67.876
08528> TOTAL RAINFALL (mm)= 76.22 76.22 76.215
08529> RUNOFF COEFFICIENT = .97 .14 .891
08530>
08531> (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
08532> CN* = 39.0 Ia = Dep. Storage (Above)
08533> (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
08534> THAN THE STORAGE COEFFICIENT.
08535> (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
08536>
08537>
08538> 001:0364-----
08539>
08540> | CALIB NASHYD | Area (ha)= 7.98 Curve Number (CN)=62.00
08541> | 02:C206 DT= 1.00 | Ia (mm)= 8.000 # of Linear Res. (N)= 3.00
08542> | U.H. Tp(hrs)= .540
08543>
08544> Unit Hyd Qpeak (cms)= .564
08545>
08546> PEAK FLOW (cms)= .312 (i)
08547> TIME TO PEAK (hrs)= 1.733
08548> RUNOFF VOLUME (mm)= 20.784
08549> TOTAL RAINFALL (mm)= 76.215
08550> RUNOFF COEFFICIENT = .273
08551>
08552> (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
08553>
08554>
08555> 001:0365-----
08556>
08557> | CALIB STANDHYD | Area (ha)= .54
08558> | 03:C107 DT= 1.00 | Total Imp(%)= 75.00 Dir. Conn.(%)= 1.00
08559>
08560>
08561> Surface Area (ha)= IMPERVIOUS PERVIOUS (i)
08562> Dep. Storage (mm)= .41 .14
08563> Average Slope (%)= 2.00 5.00
08564> Length (m)= 1.00 2.00
08565> Mannings n = .013 .250
08566>
08567> Max.eff.Inten.(mm/hr)= 249.64 348.58
08568> over (min) 2.00 6.00
08569> Storage Coeff. (min)= 1.66 (ii) 5.95 (iii)
08570> Unit Hyd. Tpeak (min)= 2.00 6.00
08571> Unit Hyd. peak (cms)= .63 .19
08572>
08573> PEAK FLOW (cms)= .00 .09 .092 (iii)
08574> TIME TO PEAK (hrs)= 1.00 1.08 1.083
08575> RUNOFF VOLUME (mm)= 74.22 32.05 32.473
08576> TOTAL RAINFALL (mm)= 76.22 76.22 76.215
08577> RUNOFF COEFFICIENT = .97 .42 .426
08578>
08579> (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
08580> CN* = 39.0 Ia = Dep. Storage (Above)
08581> (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
08582> THAN THE STORAGE COEFFICIENT.
08583> (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
08584>
08585>
08586> 001:0366-----
08587>
08588> | ADD HYD (WEST-T ) | ID: NHYD AREA QPEAK TPEAK R.V. DWF
08589> (ha) (cms) (hrs) (mm) (cms)
08590> ID1 01:C210 .39 .233 1.00 67.88 .000
08591> +ID2 02:C206 7.98 .312 1.73 20.78 .000
08592> +ID3 03:C107 .54 .092 1.08 32.47 .000
08593> +ID4 07:toWT1 .46 .109 .95 46.41 .000
08594>
08595> SUM 04:WEST-T 9.37 .404 1.00 24.68 .000
08596>
08597> NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
08598>
08599>
08600> 001:0367-----
08601>
08602> | CALIB NASHYD | Area (ha)= 6.96 Curve Number (CN)=32.00
08603> | 01:C201 DT= 1.00 | Ia (mm)= 8.000 # of Linear Res. (N)= 3.00
08604> | U.H. Tp(hrs)= .510
08605>
08606> Unit Hyd Qpeak (cms)= .521
08607>
08608> PEAK FLOW (cms)= .101 (i)
08609> TIME TO PEAK (hrs)= 1.717
08610> RUNOFF VOLUME (mm)= 7.654
08611> TOTAL RAINFALL (mm)= 76.215
08612> RUNOFF COEFFICIENT = .100
08613>
08614> (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
08615>
08616>
08617> 001:0368-----
08618>
08619> | CALIB NASHYD | Area (ha)= 2.04 Curve Number (CN)=55.00
08620> | 02:C204 DT= 1.00 | Ia (mm)= 8.000 # of Linear Res. (N)= 3.00
08621> | U.H. Tp(hrs)= .480
08622>
08623> Unit Hyd Qpeak (cms)= .162
08624>
08625> PEAK FLOW (cms)= .070 (i)
08626> TIME TO PEAK (hrs)= 1.650
08627> RUNOFF VOLUME (mm)= 16.858
08628> TOTAL RAINFALL (mm)= 76.215
08629> RUNOFF COEFFICIENT = .221
08630>
08631> (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
08632>
08633>
08634> 001:0369-----
08635>
08636> | ADD HYD (NORTH-W ) | ID: NHYD AREA QPEAK TPEAK R.V. DWF
08637> (ha) (cms) (hrs) (mm) (cms)
08638> ID1 01:C201 6.96 .101 1.72 7.65 .000
08639> +ID2 02:C204 2.04 .070 1.65 16.86 .000
08640>

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08641> SUM 03:NORTH-W 9.00 .171 1.68 9.74 .000
08642>
08643> NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
08644>
08645> -----
08646> 001:0370-----
08647>
08648> | CALIB STANDHYD | Area (ha)= 11.96 Curve Number (CN)=44.00
08649> | 01:C205 DT= 1.00 | Ia (mm)= 8.000 # of Linear Res.(N)= 3.00
08650> | U.H. Tp(hrs)= .870
08651>
08652> Unit Hyd Qpeak (cms)= .525
08653>
08654> PEAK FLOW (cms)= .187 (i)
08655> TIME TO PEAK (hrs)= 2.167
08656> RUNOFF VOLUME (mm)= 11.886
08657> TOTAL RAINFALL (mm)= 76.215
08658> RUNOFF COEFFICIENT = .156
08659>
08660> (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
08661>
08662> -----
08663> 001:0371-----
08664>
08665> | CALIB STANDHYD | Area (ha)= .61
08666> | 02:C108 DT= 1.00 | Total Imp(%)= 75.00 Dir. Conn.(%)= 1.00
08667>
08668> IMPERVIOUS PERVIOUS (i)
08669> Surface Area (ha)= .46 .15
08670> Dep. Storage (mm)= 2.00 5.00
08671> Average Slope (%)= 1.00 2.00
08672> Length (m)= 90.00 40.00
08673> Mannings n = .013 .250
08674>
08675> Max.eff.Inten.(mm/hr)= 249.64 348.58
08676> over (min) 2.00 6.00
08677> Storage Coeff. (min)= 1.66 (ii) 5.95 (ii)
08678> Unit Hyd. Tpeak (min)= 2.00 6.00
08679> Unit Hyd. peak (cms)= .63 .19
08680>
08681> PEAK FLOW (cms)= .03 .10 *TOTALS*
08682> TIME TO PEAK (hrs)= 1.00 1.08 .104 (iii)
08683> RUNOFF VOLUME (mm)= 74.22 32.473
08684> TOTAL RAINFALL (mm)= 76.22 76.22 76.215
08685> RUNOFF COEFFICIENT = .97 .42 .426
08686>
08687> (i) CN PROCEDURE SELECTED FOR PVIOUS LOSSES:
08688> CN* = 39.0 Ia = Dep. Storage (Above)
08689> (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
08690> THAN THE STORAGE COEFFICIENT.
08691> (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
08692>
08693> -----
08694> 001:0372-----
08695>
08696> | ADD HYD (CENTER-W ) | ID: NHYD AREA QPEAK TPEAK R.V. DWF
08697> | 01:C205 11.96 .187 2.17 11.89 .000
08698> | +ID2 02:C108 .61 .104 1.08 32.47 .000
08699> | =====
08700> SUM 04:CENTER-W 12.57 .197 2.13 12.89 .000
08701>
08702>
08703> NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
08704>
08705> -----
08706> 001:0373-----
08707>
08708> *#-----
08709> *# PROPOSED ULTIMATE DEVELOPMENT CONDITIONS
08710> *#-----
08711> *#-----
08712>
08713> | CALIB STANDHYD | Area (ha)= .43
08714> | 01:B100 DT= 1.00 | Total Imp(%)= 80.00 Dir. Conn.(%)= 60.00
08715>
08716> IMPERVIOUS PERVIOUS (i)
08717> Surface Area (ha)= .34 .09
08718> Dep. Storage (mm)= 2.00 5.00
08719> Average Slope (%)= 1.00 2.00
08720> Length (m)= 90.00 25.00
08721> Mannings n = .013 .250
08722>
08723> Max.eff.Inten.(mm/hr)= 249.64 97.50
08724> over (min) 2.00 7.00
08725> Storage Coeff. (min)= 1.66 (ii) 7.04 (ii)
08726> Unit Hyd. Tpeak (min)= 2.00 7.00
08727> Unit Hyd. peak (cms)= .63 .16
08728>
08729> PEAK FLOW (cms)= .17 .02 *TOTALS*
08730> TIME TO PEAK (hrs)= 1.00 1.12 .177 (iii)
08731> RUNOFF VOLUME (mm)= 74.21 19.95 52.510
08732> TOTAL RAINFALL (mm)= 76.22 76.22 76.215
08733> RUNOFF COEFFICIENT = .97 .26 .689
08734>
08735> (i) CN PROCEDURE SELECTED FOR PVIOUS LOSSES:
08736> CN* = 39.0 Ia = Dep. Storage (Above)
08737> (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
08738> THAN THE STORAGE COEFFICIENT.
08739> (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
08740>
08741> -----
08742> 001:0374-----
08743>
08744> | COMPUTE DUALHYD | Average inlet capacities [CINLET] = .077 (cms)
08745> | TotalHyd 01:B100 | Number of inlets in system [NINLET] = 1
08746> | Total minor system capacity = .077 (cms)
08747> | Total major system storage [TMJSTO] = 0. (cu.m.)
08748>
08749> ID: NHYD AREA QPEAK TPEAK R.V. DWF
08750> (ha) (cms) (hrs) (mm) (cms)
08751> TOTAL HYD. 01:B100 .43 .177 1.000 52.510 .000
08752>
08753> MAJOR SYST 03:toCW1 .07 .100 1.000 52.510 .000
08754> MINOR SYST 02:toSWMF .36 .077 .933 52.510 .000
08755>
08756> NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
08757>
08758> -----
08759> 001:0375-----
08760>
08761> | CALIB STANDHYD | Area (ha)= 4.00
08762> | 01:C303 DT= 1.00 | Total Imp(%)= 40.00 Dir. Conn.(%)= 30.00
08763>
08764> IMPERVIOUS PERVIOUS (i)
08765> Surface Area (ha)= 1.60 2.40
08766> Dep. Storage (mm)= 2.00 5.00
08767> Average Slope (%)= 1.00 2.00
08768> Length (m)= 90.00 25.00
08769> Mannings n = .013 .250
08770>
08771> Max.eff.Inten.(mm/hr)= 249.64 32.35
08772> over (min) 2.00 10.00
08773> Storage Coeff. (min)= 1.66 (ii) 10.02 (ii)
08774> Unit Hyd. Tpeak (min)= 2.00 10.00
08775> Unit Hyd. peak (cms)= .63 .11

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08776>
08777> PEAK FLOW (cms)= .79 .13 *TOTALS*
08778> TIME TO PEAK (hrs)= 1.00 1.20 1.000
08779> RUNOFF VOLUME (mm)= 74.21 12.54 31.045
08780> TOTAL RAINFALL (mm)= 76.22 76.22 76.215
08781> RUNOFF COEFFICIENT = .97 .16 .407
08782>
08783> (i) CN PROCEDURE SELECTED FOR PVIOUS LOSSES:
08784> CN* = 39.0 Ia = Dep. Storage (Above)
08785> (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
08786> THAN THE STORAGE COEFFICIENT.
08787> (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
08788>
08789> -----
08790> 001:0376-----
08791>
08792> | COMPUTE DUALHYD | Average inlet capacities [CINLET] = .440 (cms)
08793> | TotalHyd 01:C303 | Number of inlets in system [NINLET] = 1
08794> | Total minor system capacity = .440 (cms)
08795> | Total major system storage [TMJSTO] = 0. (cu.m.)
08796>
08797> ID: NHYD AREA QPEAK TPEAK R.V. DWF
08798> (ha) (cms) (hrs) (mm) (cms)
08799> TOTAL HYD. 01:C303 4.00 .828 1.000 31.045 .000
08800>
08801> MAJOR SYST 05:toCW2 .40 .388 1.000 31.045 .000
08802> MINOR SYST 04:toSWMF 3.60 .440 .950 31.045 .000
08803>
08804> NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
08805>
08806> -----
08807> 001:0377-----
08808>
08809> | CALIB STANDHYD | Area (ha)= 1.14
08810> | 01:C309 DT= 1.00 | Total Imp(%)= 62.00 Dir. Conn.(%)= 57.00
08811>
08812> IMPERVIOUS PERVIOUS (i)
08813> Surface Area (ha)= .71 .43
08814> Dep. Storage (mm)= 2.00 5.00
08815> Average Slope (%)= 1.00 2.00
08816> Length (m)= 90.00 25.00
08817> Mannings n = .013 .250
08818>
08819> Max.eff.Inten.(mm/hr)= 249.64 30.42
08820> over (min) 2.00 10.00
08821> Storage Coeff. (min)= 1.66 (ii) 10.23 (ii)
08822> Unit Hyd. Tpeak (min)= 2.00 10.00
08823> Unit Hyd. peak (cms)= .63 .11
08824>
08825> PEAK FLOW (cms)= .43 .02 *TOTALS*
08826> TIME TO PEAK (hrs)= 1.00 1.20 1.000
08827> RUNOFF VOLUME (mm)= 74.21 12.19 47.544
08828> TOTAL RAINFALL (mm)= 76.22 76.22 76.215
08829> RUNOFF COEFFICIENT = .97 .16 .624
08830>
08831> (i) CN PROCEDURE SELECTED FOR PVIOUS LOSSES:
08832> CN* = 39.0 Ia = Dep. Storage (Above)
08833> (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
08834> THAN THE STORAGE COEFFICIENT.
08835> (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
08836>
08837> -----
08838> 001:0378-----
08839>
08840> | COMPUTE DUALHYD | Average inlet capacities [CINLET] = .237 (cms)
08841> | TotalHyd 01:C309 | Number of inlets in system [NINLET] = 1
08842> | Total minor system capacity = .237 (cms)
08843> | Total major system storage [TMJSTO] = 0. (cu.m.)
08844>
08845> ID: NHYD AREA QPEAK TPEAK R.V. DWF
08846> (ha) (cms) (hrs) (mm) (cms)
08847> TOTAL HYD. 01:C309 1.14 .435 1.000 47.544 .000
08848>
08849> MAJOR SYST 07:toCW3 .12 .198 1.000 47.544 .000
08850> MINOR SYST 06:toSWMF 1.02 .237 .950 47.544 .000
08851>
08852> NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
08853>
08854> -----
08855> 001:0379-----
08856>
08857> | CALIB STANDHYD | Area (ha)= .27
08858> | 01:C308 DT= 1.00 | Total Imp(%)= 90.00 Dir. Conn.(%)= 90.00
08859>
08860> IMPERVIOUS PERVIOUS (i)
08861> Surface Area (ha)= .24 .03
08862> Dep. Storage (mm)= 2.00 5.00
08863> Average Slope (%)= 1.00 2.00
08864> Length (m)= 90.00 40.00
08865> Mannings n = .013 .250
08866>
08867> Max.eff.Inten.(mm/hr)= 249.64 20.16
08868> over (min) 2.00 15.00
08869> Storage Coeff. (min)= 1.66 (ii) 15.06 (ii)
08870> Unit Hyd. Tpeak (min)= 2.00 15.00
08871> Unit Hyd. peak (cms)= .63 .08
08872>
08873> PEAK FLOW (cms)= .16 .00 *TOTALS*
08874> TIME TO PEAK (hrs)= 1.00 1.30 1.000
08875> RUNOFF VOLUME (mm)= 74.21 10.83 67.876
08876> TOTAL RAINFALL (mm)= 76.22 76.22 76.215
08877> RUNOFF COEFFICIENT = .97 .14 .891
08878>
08879> (i) CN PROCEDURE SELECTED FOR PVIOUS LOSSES:
08880> CN* = 39.0 Ia = Dep. Storage (Above)
08881> (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
08882> THAN THE STORAGE COEFFICIENT.
08883> (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
08884>
08885> -----
08886> 001:0380-----
08887>
08888> | COMPUTE DUALHYD | Average inlet capacities [CINLET] = .025 (cms)
08889> | TotalHyd 01:C308 | Number of inlets in system [NINLET] = 1
08890> | Total minor system capacity = .025 (cms)
08891> | Total major system storage [TMJSTO] = 0. (cu.m.)
08892>
08893> ID: NHYD AREA QPEAK TPEAK R.V. DWF
08894> (ha) (cms) (hrs) (mm) (cms)
08895> TOTAL HYD. 01:C308 .27 .161 1.000 67.876 .000
08896>
08897> MAJOR SYST 09:toCW4 .12 .135 1.000 67.876 .000
08898> MINOR SYST 08:toSWMF .15 .025 .850 67.876 .000
08899>
08900> NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
08901>
08902> -----
08903> 001:0381-----
08904>
08905> | CALIB NASHYD | Area (ha)= 9.89 Curve Number (CN)=34.00
08906> | 01:C304 DT= 1.00 | Ia (mm)= 8.000 # of Linear Res.(N)= 3.00
08907> | U.H. Tp(hrs)= .510
08908>
08909> Unit Hyd Qpeak (cms)= .741
08910>

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08911> PEAK FLOW (cms)= .156 (i)
08912> TIME TO PEAK (hrs)= 1.717
08913> RUNOFF VOLUME (mm)= 8.221
08914> TOTAL RAINFALL (mm)= 76.215
08915> RUNOFF COEFFICIENT = .109
08916>
08917> (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
08918>
08919>
08920> 001:0382-----
08921>
08922> | ADD HYD (CENTER-W ) | ID: NHYD AREA QPEAK TPEAK R.V. DWF
08923> | IN:04: (CENTER) | (ha) (cms) (hrs) (mm) (cms)
08924> ID1 01:C304 3.89 .156 1.72 8.29 .000
08925> +ID2 03:toCW1 .07 .100 1.00 52.51 .000
08926> +ID3 05:toCW2 .40 .388 1.00 31.05 .000
08927> +ID4 07:toCW3 .12 .198 1.00 47.54 .000
08928> +ID5 09:toCW4 .12 .135 1.00 67.88 .000
08929>
08930> SUM 10: CENTER-W 10.59 .826 1.00 10.52 .000
08931>
08932> NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
08933>
08934>
08935> 001:0383-----
08936>
08937> | ROUTE RESERVOIR | Requested routing time step = 1.0 min.
08938> | IN:04: (CENTER) |
08939> | OUT<01: (CW-SSD) |
08940>
08941> ===== OUTFLOW STORAGE TABLE =====
08942> OUTFLOW STORAGE | OUTFLOW STORAGE
08943> (cms) (ha.m.) | (cms) (ha.m.)
08944> .000 .0000E+00 | .222 .6400E+00
08945> .000 .3700E+00 | .000 .0000E+00
08946>
08947> ROUTING RESULTS AREA QPEAK TPEAK R.V.
08948> (ha) (cms) (hrs) (mm)
08949> INFLOW >10: (CENTER) 10.59 .826 1.000 10.525
08950> OUTFLOW<01: (CW-SSD) 10.59 .000 .000 .000
08951> OVERFLOW<03: (toWTL ) .00 .000 .000 .000
08952>
08953> TOTAL NUMBER OF SIMULATED OVERFLOWS = 0
08954> CUMULATIVE TIME OF OVERFLOWS (hours)= .00
08955> PERCENTAGE OF TIME OVERFLOWING (%)= .00
08956>
08957> PEAK FLOW REDUCTION [Qout/Qin] (%) = .000
08958> TIME SHIFT OF PEAK FLOW (min)= -60.00
08959> MAXIMUM STORAGE USED (ha.m.)=.1115E+00
08960>
08961> *** WARNING: Outflow volume is less than inflow volume.
08962>
08963> 001:0384-----
08964>
08965> | CALIB STANDHYD | Area (ha)= .44
08966> | 05:C207 DT= 1.00 | Total Imp(%)= 35.00 Dir. Conn.(%)= 25.00
08967>
08968> IMPERVIOUS PERVIOUS (i)
08969> Surface Area (ha)= .15
08970> Dep. Storage (mm)= 2.00 5.00
08971> Average Slope (%)= 1.00 2.00
08972> Length (m)= 90.00 25.00
08973> Mannings n = .013 .250
08974>
08975> Max.eff.Inten.(mm/hr)= 249.64 31.64
08976> over (min) 2.00 10.00
08977> Storage Coeff. (min)= 1.66 (ii) 10.10 (ii)
08978> Unit Hyd. Tpeak (min)= 2.00 10.00
08979> Unit Hyd. peak (cms)= .63 .11
08980>
08981> PEAK FLOW (cms)= .07 .02 .077 (iii)
08982> TIME TO PEAK (hrs)= 1.00 1.20 1.000
08983> RUNOFF VOLUME (mm)= 74.21 12.41 27.865
08984> TOTAL RAINFALL (mm)= 76.22 76.22 76.215
08985> RUNOFF COEFFICIENT = .97 .16 .366
08986>
08987> (i) CN PROCEDURE SELECTED FOR PVIOUS LOSSES:
08988> CN* = 39.0 Ia = Dep. Storage (Above)
08989> (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
08990> THAN THE STORAGE COEFFICIENT.
08991> (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
08992>
08993> 001:0385-----
08994>
08995> | COMPUTE DUALHYD | Average inlet capacities [CINLET] = .064 (cms)
08996> | TotalHyd 05:C207 | Number of inlets in system [NINLET] = 1
08997> | TotalHyd 05:C207 | Total minor system capacity = .064 (cms)
08998> | TotalHyd 05:C207 | Total major system storage [TMJSTO] = 0. (cu.m.)
08999>
09000> ID: NHYD AREA QPEAK TPEAK R.V. DWF
09001> (ha) (cms) (hrs) (mm) (cms)
09002> TOTAL HYD. 05:C207 .44 .077 1.000 27.865 .000
09003>
09004> MAJOR SYST 09:toRT1 .01 .013 1.000 27.865 .000
09005> MINOR SYST 07:toSWMF .43 .064 .967 27.865 .000
09006>
09007> NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
09008>
09009>
09010> 001:0386-----
09011>
09012> | CALIB STANDHYD | Area (ha)= .93
09013> | 05:C208 DT= 1.00 | Total Imp(%)= 35.00 Dir. Conn.(%)= 25.00
09014>
09015> IMPERVIOUS PERVIOUS (i)
09016> Surface Area (ha)= .33 .60
09017> Dep. Storage (mm)= 2.00 5.00
09018> Average Slope (%)= 1.00 2.00
09019> Length (m)= 90.00 25.00
09020> Mannings n = .013 .250
09021>
09022> Max.eff.Inten.(mm/hr)= 249.64 31.64
09023> over (min) 2.00 10.00
09024> Storage Coeff. (min)= 1.66 (ii) 10.10 (ii)
09025> Unit Hyd. Tpeak (min)= 2.00 10.00
09026> Unit Hyd. peak (cms)= .63 .11
09027>
09028> PEAK FLOW (cms)= .15 .03 .162 (iii)
09029> TIME TO PEAK (hrs)= 1.00 1.20 1.000
09030> RUNOFF VOLUME (mm)= 74.22 12.41 27.865
09031> TOTAL RAINFALL (mm)= 76.22 76.22 76.215
09032> RUNOFF COEFFICIENT = .97 .16 .366
09033>
09034> (i) CN PROCEDURE SELECTED FOR PVIOUS LOSSES:
09035> CN* = 39.0 Ia = Dep. Storage (Above)
09036> (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
09037> THAN THE STORAGE COEFFICIENT.
09038> (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
09039>
09040>
09041> 001:0387-----
09042>
09043> | COMPUTE DUALHYD | Average inlet capacities [CINLET] = .119 (cms)
09044> | TotalHyd 05:C208 | Number of inlets in system [NINLET] = 1
09045> | TotalHyd 05:C208 | Total minor system capacity = .119 (cms)

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09046> Total major system storage [TMJSTO] = 0. (cu.m.)
09047>
09048> ID: NHYD AREA QPEAK TPEAK R.V. DWF
09049> (ha) (cms) (hrs) (mm) (cms)
09050> TOTAL HYD. 05:C208 .93 .162 1.000 27.865 .000
09051>
09052> MAJOR SYST 03:toET2 .03 .043 1.000 27.865 .000
09053> MINOR SYST 01:toSWMF .90 .119 .967 27.865 .000
09054>
09055> NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
09056>
09057>
09058> 001:0388-----
09059>
09060> | ADD HYD (toSWMF1A ) | ID: NHYD AREA QPEAK TPEAK R.V. DWF
09061> (ha) (cms) (hrs) (mm) (cms)
09062> ID1 01:toSWMF6 .90 .119 .97 27.86 .000
09063> +ID2 02:toSWMF1 .36 .077 .93 52.51 .000
09064> +ID3 04:toSWMF2 3.60 .440 .95 31.05 .000
09065> +ID4 06:toSWMF3 1.02 .237 .95 47.54 .000
09066> +ID5 07:toSWMF5 .43 .064 .97 27.86 .000
09067> +ID6 08:toSWMF4 .15 .025 .85 67.88 .000
09068>
09069> SUM 05:toSWMF1A 6.47 .962 .97 35.07 .000
09070>
09071> NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
09072>
09073>
09074> 001:0389-----
09075>
09076> | CALIB STANDHYD | Area (ha)= 12.10
09077> | 01:C302 DT= 1.00 | Total Imp(%)= 41.00 Dir. Conn.(%)= 31.00
09078>
09079> IMPERVIOUS PERVIOUS (i)
09080> Surface Area (ha)= 4.96 7.14
09081> Dep. Storage (mm)= 2.00 5.00
09082> Average Slope (%)= 1.00 2.00
09083> Length (m)= 90.00 25.00
09084> Mannings n = .013 .250
09085>
09086> Max.eff.Inten.(mm/hr)= 249.64 32.51
09087> over (min) 2.00 10.00
09088> Storage Coeff. (min)= 1.66 (ii) 10.01 (ii)
09089> Unit Hyd. Tpeak (min)= 2.00 10.00
09090> Unit Hyd. peak (cms)= .63 .11
09091>
09092> PEAK FLOW (cms)= 2.48 .40 2.582 (iii)
09093> TIME TO PEAK (hrs)= 1.00 1.20 1.000
09094> RUNOFF VOLUME (mm)= 74.21 12.57 31.682
09095> TOTAL RAINFALL (mm)= 76.22 76.22 76.215
09096> RUNOFF COEFFICIENT = .97 .16 .416
09097>
09098> (i) CN PROCEDURE SELECTED FOR PVIOUS LOSSES:
09099> CN* = 39.0 Ia = Dep. Storage (Above)
09100> (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
09101> THAN THE STORAGE COEFFICIENT.
09102> (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
09103>
09104>
09105> 001:0390-----
09106>
09107> | CALIB STANDHYD | Area (ha)= 1.29
09108> | 02:C203 DT= 1.00 | Total Imp(%)= 68.00 Dir. Conn.(%)= 66.00
09109>
09110> IMPERVIOUS PERVIOUS (i)
09111> Surface Area (ha)= .88 .41
09112> Dep. Storage (mm)= 2.00 5.00
09113> Average Slope (%)= 1.00 2.00
09114> Length (m)= 100.00 100.00
09115> Mannings n = .013 .250
09116>
09117> Max.eff.Inten.(mm/hr)= 249.64 16.59
09118> over (min) 2.00 27.00
09119> Storage Coeff. (min)= 2.18 (ii) 27.27 (ii)
09120> Unit Hyd. Tpeak (min)= 2.00 27.00
09121> Unit Hyd. peak (cms)= .53 .04
09122>
09123> PEAK FLOW (cms)= .54 .01 2.539 (iii)
09124> TIME TO PEAK (hrs)= 1.00 1.52 1.000
09125> RUNOFF VOLUME (mm)= 74.21 11.48 52.885
09126> TOTAL RAINFALL (mm)= 76.22 76.22 76.215
09127> RUNOFF COEFFICIENT = .97 .15 .694
09128>
09129> (i) CN PROCEDURE SELECTED FOR PVIOUS LOSSES:
09130> CN* = 39.0 Ia = Dep. Storage (Above)
09131> (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
09132> THAN THE STORAGE COEFFICIENT.
09133> (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
09134>
09135>
09136> 001:0391-----
09137>
09138> | ADD HYD (toSWMF2A ) | ID: NHYD AREA QPEAK TPEAK R.V. DWF
09139> (ha) (cms) (hrs) (mm) (cms)
09140> ID1 01:C302 12.10 2.582 1.00 31.68 .000
09141> +ID2 02:C203 1.29 .539 1.00 52.89 .000
09142> +ID3 05:toSWMF1A 6.47 .962 .97 35.07 .000
09143>
09144> SUM 04:toSWMF2A 19.86 4.083 1.00 34.16 .000
09145>
09146> NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
09147>
09148>
09149> 001:0392-----
09150>
09151> | ROUTE RESERVOIR | Requested routing time step = 1.0 min.
09152> | IN>04: (toSWMF) |
09153> | OUT<01: (SWMF ) |
09154>
09155> ===== OUTFLOW STORAGE TABLE =====
09156> OUTFLOW STORAGE | OUTFLOW STORAGE
09157> (cms) (ha.m.) | (cms) (ha.m.)
09158> .000 .0000E+00 | .340 .2740E+00
09159> .011 .2900E-01 | .697 .3140E+00
09160> .015 .6000E-01 | 1.206 .3540E+00
09161> .019 .9200E-01 | 1.880 .3960E+00
09162> .022 .1260E+00 | 2.734 .4380E+00
09163> .024 .1610E+00 | 3.779 .4820E+00
09164> .027 .1980E+00 | 5.029 .5260E+00
09165> .120 .2360E+00 | .000 .0000E+00
09166>
09167> ROUTING RESULTS AREA QPEAK TPEAK R.V.
09168> (ha) (cms) (hrs) (mm)
09169> INFLOW >04: (toSWMF) 19.86 4.083 1.000 34.163
09170> OUTFLOW<01: (SWMF ) 19.86 1.227 1.317 34.162
09171> OVERFLOW<02: (OverQ ) .00 .000 .000 .000
09172>
09173> TOTAL NUMBER OF SIMULATED OVERFLOWS = 0
09174> CUMULATIVE TIME OF OVERFLOWS (hours)= .00
09175> PERCENTAGE OF TIME OVERFLOWING (%)= .00
09176>
09177> PEAK FLOW REDUCTION [Qout/Qin] (%)= 30.042
09178> TIME SHIFT OF PEAK FLOW (min)= 19.00
09179> MAXIMUM STORAGE USED (ha.m.)=.3553E+00
09180>

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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 (iii)
09196> Unit Hyd. Tpeak (min)= 2.00 15.00
09197> Unit Hyd. peak (cms)= .63 .07
09198>
09199> PEAK FLOW (cms)= 3.06 .53 *TOTALS*
09200> TIME TO PEAK (hrs)= 1.00 1.30 3.141 (iii)
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 (iii)
09227> Unit Hyd. Tpeak (min)= 2.00 6.00
09228> Unit Hyd. peak (cms)= .63 .18
09229>
09230> PEAK FLOW (cms)= .19 .01 *TOTALS*
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> | TotalHyd 05:C209 | Total minor system capacity = .109 (cms)
09248> | TotalHyd 05:C209 | 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 (iii)
09291> Unit Hyd. Tpeak (min)= 2.00 7.00
09292> Unit Hyd. peak (cms)= .63 .16
09293>
09294> PEAK FLOW (cms)= .23 .00 *TOTALS*
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

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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>
09325> PEAK FLOW (cms)= .00 .10 *TOTALS*
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>
09356> PEAK FLOW (cms)= .98 .09 *TOTALS*
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> | TotalHyd 03:C305 | Total minor system capacity = .030 (cms)
09374> | TotalHyd 03:C305 | 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> | 03:C306 DT= 1.00 | 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> | 01:C301 DT= 1.00 | 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>

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09451>      Duration of storm = 3.00 hrs
09452>      Storm time step = 5.00 min
09453>      Time to peak ratio = .33
09454>
09455>      TIME RAIN | TIME RAIN | TIME RAIN | TIME RAIN
09456>      hrs mm/hr | hrs mm/hr | hrs mm/hr | hrs mm/hr
09457>      .08 5.095 | .83 43.425 | 1.58 19.302 | 2.33 7.254
09458>      .17 5.690 | .92 106.077 | 1.67 16.460 | 2.42 6.764
09459>      .25 6.440 | 1.00 274.730 | 1.75 14.300 | 2.50 6.334
09460>      .33 7.410 | 1.08 136.668 | 1.83 12.612 | 2.58 5.955
09461>      .42 8.710 | 1.17 76.864 | 1.92 11.261 | 2.67 5.617
09462>      .50 10.529 | 1.25 50.954 | 2.00 10.158 | 2.75 5.316
09463>      .58 13.230 | 1.33 37.106 | 2.08 9.244 | 2.83 5.044
09464>      .67 17.585 | 1.42 28.713 | 2.17 8.474 | 2.92 4.799
09465>      .75 25.536 | 1.50 23.179 | 2.25 7.819 | 3.00 4.577
09466>
09467> -----
09468> 001:0405-----
09469> *#-----
09470> *#-----
09471> *#-----
09472> *#-----
09473> *#-----
09474> -----
09475> | CALIB STANDHYD | Area (ha)= 18.54
09476> | 01:EX-1 DT= 1.00 | Total Imp(%)= 35.00 Dir. Conn.(%)= 25.00
09477> -----
09478> | IMPERVIOUS | PERVIOUS (i)
09479> | Surface Area (ha)= 6.49 12.05
09480> | Dep. Storage (mm)= 2.00 5.00
09481> | Average Slope (%)= 1.00 2.00
09482> | Length (m)= 90.00 50.00
09483> | Mannings n = .013 .250
09484> -----
09485> | Max.eff.Inten.(mm/hr)= 274.73 34.87
09486> | over (min) 2.00 14.00
09487> | Storage Coeff. (min)= 1.60 (ii) 13.90 (ii)
09488> | Unit Hyd. Tpeak (min)= 2.00 14.00
09489> | Unit Hyd. peak (cms)= .64 .08
09490> -----
09491> | PEAK FLOW (cms)= 3.39 .71 3.512 (iii)
09492> | TIME TO PEAK (hrs)= 1.00 1.28 1.000
09493> | RUNOFF VOLUME (mm)= 86.60 15.87 33.050
09494> | TOTAL RAINFALL (mm)= 86.60 86.60 86.603
09495> | RUNOFF COEFFICIENT = .98 .18 .382
09496> -----
09497> (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
09498> CN* = 39.0 Ia = Dep. Storage (Above)
09499> (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
09500> THAN THE STORAGE COEFFICIENT.
09501> (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
09502> -----
09503> -----
09504> 001:0406-----
09505> -----
09506> | CALIB NASHYD | Area (ha)= 9.06 Curve Number (CN)=40.00
09507> | 02:C101 DT= 1.00 | Ia (mm)= 8.000 # of Linear Res. (N)= 3.00
09508> | U.H. Tp(hrs)= .510
09509> -----
09510> | Unit Hyd Qpeak (cms)= .679
09511> -----
09512> | PEAK FLOW (cms)= .235 (i)
09513> | TIME TO PEAK (hrs)= 1.708
09514> | RUNOFF VOLUME (mm)= 13.443
09515> | TOTAL RAINFALL (mm)= 86.603
09516> | RUNOFF COEFFICIENT = .155
09517> -----
09518> (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
09519> -----
09520> -----
09521> 001:0407-----
09522> -----
09523> | CALIB NASHYD | Area (ha)= 13.09 Curve Number (CN)=47.00
09524> | 03:C102 DT= 1.00 | Ia (mm)= 8.000 # of Linear Res. (N)= 3.00
09525> | U.H. Tp(hrs)= .850
09526> -----
09527> | Unit Hyd Qpeak (cms)= .588
09528> -----
09529> | PEAK FLOW (cms)= .299 (i)
09530> | TIME TO PEAK (hrs)= 2.133
09531> | RUNOFF VOLUME (mm)= 16.926
09532> | TOTAL RAINFALL (mm)= 86.603
09533> | RUNOFF COEFFICIENT = .195
09534> -----
09535> (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
09536> -----
09537> -----
09538> 001:0408-----
09539> -----
09540> | CALIB STANDHYD | Area (ha)= .61
09541> | 04:C108 DT= 1.00 | Total Imp(%)= 75.00 Dir. Conn.(%)= 1.00
09542> -----
09543> | IMPERVIOUS | PERVIOUS (i)
09544> | Surface Area (ha)= .46 .15
09545> | Dep. Storage (mm)= 2.00 5.00
09546> | Average Slope (%)= 1.00 2.00
09547> | Length (m)= 90.00 40.00
09548> | Mannings n = .013 .250
09549> -----
09550> | Max.eff.Inten.(mm/hr)= 274.73 419.77
09551> | over (min) 2.00 6.00
09552> | Storage Coeff. (min)= 1.60 (ii) 5.58 (ii)
09553> | Unit Hyd. Tpeak (min)= 2.00 6.00
09554> | Unit Hyd. peak (cms)= .64 .20
09555> -----
09556> | PEAK FLOW (cms)= .00 .13 .129 (iii)
09557> | TIME TO PEAK (hrs)= 1.00 1.08 1.083
09558> | RUNOFF VOLUME (mm)= 84.60 39.23 39.680
09559> | TOTAL RAINFALL (mm)= 86.60 86.60 86.603
09560> | RUNOFF COEFFICIENT = .98 .45 .458
09561> -----
09562> (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
09563> CN* = 39.0 Ia = Dep. Storage (Above)
09564> (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
09565> THAN THE STORAGE COEFFICIENT.
09566> (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
09567> -----
09568> -----
09569> 001:0409-----
09570> -----
09571> | ADD HYD (CENTER-W ) | ID: NHYD AREA QPEAK TPEAK R.V. DWF
09572> |-----|-----|-----|-----|-----|-----|
09573> | 03:C102 13.09 (cms) (hrs) (mm) (cms)
09574> | +ID2 04:C108 .61 .129 1.08 39.68 .000
09575> |-----|-----|-----|-----|-----|-----|
09576> | SUM 05:CENTER-W 13.70 .311 2.12 17.94 .000
09577> -----
09578> NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
09579> -----
09580> -----
09581> 001:0410-----
09582> -----
09583> | CALIB NASHYD | Area (ha)= 9.17 Curve Number (CN)=64.00
09584> | 03:C104 DT= 1.00 | Ia (mm)= 8.000 # of Linear Res. (N)= 3.00
09585> | U.H. Tp(hrs)= .590
09586> -----
09587> -----
09588> -----
09589> -----
09590> -----
09591> -----
09592> | CALIB STANDHYD | Area (ha)= .54
09593> | 04:C107 DT= 1.00 | Total Imp(%)= 75.00 Dir. Conn.(%)= 1.00
09594> -----
09595> | IMPERVIOUS | PERVIOUS (i)
09596> | Surface Area (ha)= .41 .14
09597> | Dep. Storage (mm)= 2.00 5.00
09598> | Average Slope (%)= 1.00 2.00
09599> | Length (m)= 90.00 40.00
09600> | Mannings n = .013 .250
09601> -----
09602> | Max.eff.Inten.(mm/hr)= 274.73 419.77
09603> | over (min) 2.00 6.00
09604> | Storage Coeff. (min)= 1.60 (ii) 5.58 (ii)
09605> | Unit Hyd. Tpeak (min)= 2.00 6.00
09606> | Unit Hyd. peak (cms)= .64 .20
09607> -----
09608> | PEAK FLOW (cms)= .00 .11 .114 (iii)
09609> | TIME TO PEAK (hrs)= 1.00 1.08 1.083
09610> | RUNOFF VOLUME (mm)= 84.60 39.23 39.680
09611> | TOTAL RAINFALL (mm)= 86.60 86.60 86.603
09612> | RUNOFF COEFFICIENT = .98 .45 .458
09613> -----
09614> (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
09615> CN* = 39.0 Ia = Dep. Storage (Above)
09616> (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
09617> THAN THE STORAGE COEFFICIENT.
09618> (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
09619> -----
09620> -----
09621> -----
09622> -----
09623> -----
09624> -----
09625> -----
09626> -----
09627> -----
09628> -----
09629> 001:0412-----
09630> -----
09631> | ADD HYD (EAST-T ) | ID: NHYD AREA QPEAK TPEAK R.V. DWF
09632> |-----|-----|-----|-----|-----|-----|
09633> | 01:EX-1 18.54 (ha) (cms) (hrs) (mm) (cms)
09634> | +ID2 03:C104 9.17 .457 1.78 27.90 .000
09635> | +ID3 04:C105 1.63 .605 1.00 50.13 .000
09636> |-----|-----|-----|-----|-----|-----|
09637> | SUM 06:EAST-T 29.34 4.129 1.00 32.39 .000
09638> -----
09639> -----
09640> NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
09641> -----
09642> 001:0413-----
09643> -----
09644> | CALIB NASHYD | Area (ha)= 8.73 Curve Number (CN)=62.00
09645> | 01:C103 DT= 1.00 | Ia (mm)= 8.000 # of Linear Res. (N)= 3.00
09646> | U.H. Tp(hrs)= .540
09647> -----
09648> | Unit Hyd Qpeak (cms)= .617
09649> -----
09650> | PEAK FLOW (cms)= .437 (i)
09651> | TIME TO PEAK (hrs)= 1.733
09652> | RUNOFF VOLUME (mm)= 26.372
09653> | TOTAL RAINFALL (mm)= 86.603
09654> | RUNOFF COEFFICIENT = .305
09655> -----
09656> (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
09657> -----
09658> -----
09659> 001:0414-----
09660> -----
09661> | CALIB STANDHYD | Area (ha)= .47
09662> | 03:C106 DT= 1.00 | Total Imp(%)= 75.00 Dir. Conn.(%)= 1.00
09663> -----
09664> | IMPERVIOUS | PERVIOUS (i)
09665> | Surface Area (ha)= .35 .12
09666> | Dep. Storage (mm)= 2.00 5.00
09667> | Average Slope (%)= 1.00 2.00
09668> | Length (m)= 90.00 40.00
09669> | Mannings n = .013 .250
09670> -----
09671> | Max.eff.Inten.(mm/hr)= 274.73 419.77
09672> | over (min) 2.00 6.00
09673> | Storage Coeff. (min)= 1.60 (ii) 5.58 (ii)
09674> | Unit Hyd. Tpeak (min)= 2.00 6.00
09675> | Unit Hyd. peak (cms)= .64 .20
09676> -----
09677> | PEAK FLOW (cms)= .00 .10 .100 (iii)
09678> | TIME TO PEAK (hrs)= 1.00 1.08 1.083
09679> | RUNOFF VOLUME (mm)= 84.60 39.23 39.680
09680> | TOTAL RAINFALL (mm)= 86.60 86.60 86.603
09681> | RUNOFF COEFFICIENT = .98 .45 .458
09682> -----
09683> (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
09684> CN* = 39.0 Ia = Dep. Storage (Above)
09685> (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
09686> THAN THE STORAGE COEFFICIENT.
09687> (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
09688> -----
09689> -----
09690> 001:0415-----
09691> -----
09692> | CALIB STANDHYD | Area (ha)= .54
09693> | 04:C107 DT= 1.00 | Total Imp(%)= 75.00 Dir. Conn.(%)= 1.00
09694> -----
09695> | IMPERVIOUS | PERVIOUS (i)
09696> | Surface Area (ha)= .41 .14
09697> | Dep. Storage (mm)= 2.00 5.00
09698> | Average Slope (%)= 1.00 2.00
09699> | Length (m)= 90.00 40.00
09700> | Mannings n = .013 .250
09701> -----
09702> | Max.eff.Inten.(mm/hr)= 274.73 419.77
09703> | over (min) 2.00 6.00
09704> | Storage Coeff. (min)= 1.60 (ii) 5.58 (ii)
09705> | Unit Hyd. Tpeak (min)= 2.00 6.00
09706> | Unit Hyd. peak (cms)= .64 .20
09707> -----
09708> | PEAK FLOW (cms)= .00 .11 .114 (iii)
09709> | TIME TO PEAK (hrs)= 1.00 1.08 1.083
09710> | RUNOFF VOLUME (mm)= 84.60 39.23 39.680
09711> | TOTAL RAINFALL (mm)= 86.60 86.60 86.603
09712> | RUNOFF COEFFICIENT = .98 .45 .458
09713> -----
09714> (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
09715> CN* = 39.0 Ia = Dep. Storage (Above)
09716> (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
09717> THAN THE STORAGE COEFFICIENT.
09718> (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
09719> -----
09720> -----

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09721> 001:0416-----
09722> | ADD HYD (WEST-F ) | ID: NHYD AREA QPEAK TPEAK R.V. DWF
09723> | (ha) (cms) (hrs) (mm) (cms)
09724> -----
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>
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> # PROPOSED INTERIM DEVELOPMENT CONDITIONS
09768> #
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 6.00
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>
09788> PEAK FLOW (cms)= 2.12 .43 .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> | CALIB STANDHYD | Area (ha)= .44
09803> | 02:C207 DT= 1.00 | Total Imp(%)= 35.00 Dir. Conn.(%)= 25.00
09804> -----
09805> IMPERVIOUS PERVIOUS (i)
09806> Surface Area (ha)= .15 .29
09807> Dep. Storage (mm)= 2.00 5.00
09808> Average Slope (%)= 1.00 2.00
09809> Length (m)= 90.00 25.00
09810> Mannings n = .013 .250
09811>
09812> Max.eff.Inten.(mm/hr)= 274.73 40.83
09813> over (min) 2.00 9.00
09814> Storage Coeff. (min)= 1.60 (ii) 9.22 (ii)
09815> Unit Hyd. Tpeak (min)= 2.00 9.00
09816> Unit Hyd. peak (cms)= .64 .12
09817>
09818> PEAK FLOW (cms)= .08 .02 .087 (iii)
09819> TIME TO PEAK (hrs)= 1.00 1.18 1.000
09820> RUNOFF VOLUME (mm)= 84.60 15.87 33.050
09821> TOTAL RAINFALL (mm)= 86.60 86.60 86.603
09822> RUNOFF COEFFICIENT = .98 .18 .382
09823>
09824> (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
09825> CN* = 39.0 Ia = Dep. Storage (Above)
09826> (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
09827> THAN THE STORAGE COEFFICIENT.
09828> (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
09829>
09830> -----
09831> 001:0420-----
09832> | COMPUTE DUALHYD | Average inlet capacities [CINLET] = .064 (cms)
09833> | TotalHyd 02:C207 | Number of inlets in system [NINLET] = 1
09834> | TotalHyd 02:C207 | Total minor system capacity = .064 (cms)
09835> | TotalHyd 02:C207 | Total major system storage [TMJSTO] = 0. (cu.m.)
09836> -----
09837> ID: NHYD AREA QPEAK TPEAK R.V. DWF
09838> (ha) (cms) (hrs) (mm) (cms)
09839> -----
09840> TOTAL HYD. 02:C207 .44 .087 1.000 33.050 .000
09841>
09842> MAJOR SYST 04:toET1 .01 .023 1.000 33.050 .000
09843> MINOR SYST 03:toSWMF .43 .064 .967 33.050 .000
09844>
09845> NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
09846>
09847> -----
09848> 001:0421-----
09849> | CALIB STANDHYD | Area (ha)= .93
09850> | 02:C208 DT= 1.00 | Total Imp(%)= 35.00 Dir. Conn.(%)= 25.00
09851> -----
09852> IMPERVIOUS PERVIOUS (i)
09853> Surface Area (ha)= .33 .60

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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>
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> | COMPUTE DUALHYD | Average inlet capacities [CINLET] = .119 (cms)
09882> | TotalHyd 02:C208 | Number of inlets in system [NINLET] = 1
09883> | TotalHyd 02:C208 | Total minor system capacity = .119 (cms)
09884> | TotalHyd 02:C208 | Total major system storage [TMJSTO] = 0. (cu.m.)
09885> -----
09886> ID: NHYD AREA QPEAK TPEAK R.V. DWF
09887> (ha) (cms) (hrs) (mm) (cms)
09888> -----
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> | CALIB STANDHYD | Area (ha)= 1.29
09899> | 02:C203 DT= 1.00 | Total Imp(%)= 68.00 Dir. Conn.(%)= 66.00
09900> -----
09901> IMPERVIOUS PERVIOUS (i)
09902> Surface Area (ha)= .88 .41
09903> Dep. Storage (mm)= 2.00 5.00
09904> Average Slope (%)= .50 2.00
09905> Length (m)= 100.00 100.00
09906> Mannings n = .013 .250
09907>
09908> Max.eff.Inten.(mm/hr)= 274.73 22.73
09909> over (min) 2.00 24.00
09910> Storage Coeff. (min)= 2.10 (ii) 24.22 (ii)
09911> Unit Hyd. Tpeak (min)= 2.00 24.00
09912> Unit Hyd. peak (cms)= .54 .05
09913>
09914> PEAK FLOW (cms)= .60 .01 .599 (iii)
09915> TIME TO PEAK (hrs)= 1.00 1.47 1.000
09916> RUNOFF VOLUME (mm)= 84.60 14.71 60.841
09917> TOTAL RAINFALL (mm)= 86.60 86.60 86.603
09918> RUNOFF COEFFICIENT = .98 .17 .703
09919>
09920> (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
09921> CN* = 39.0 Ia = Dep. Storage (Above)
09922> (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
09923> THAN THE STORAGE COEFFICIENT.
09924> (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
09925>
09926> -----
09927> 001:0424-----
09928> | ADD HYD (toSWMF ) | ID: NHYD AREA QPEAK TPEAK R.V. DWF
09929> (ha) (cms) (hrs) (mm) (cms)
09930> -----
09931> ID1 01:C202 9.66 2.251 1.00 36.60 .000
09932> +ID2 02:C203 1.29 .599 1.00 60.84 .000
09933> +ID3 03:toSWMF1 .43 .064 .97 33.05 .000
09934> +ID4 05:toSWMF2 .88 .119 .95 33.05 .000
09935> -----
09936> SUM 07:toSWMF 12.25 3.033 1.00 38.77 .000
09937>
09938> NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
09939>
09940> -----
09941> 001:0425-----
09942> | ROUTE RESERVOIR | Requested routing time step = 1.0 min.
09943> | IN>07: (toSWMF) |
09944> | OUT<01: (SWMF ) |
09945> -----
09946> OUTFLOW 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> | CALIB STANDHYD | Area (ha)= 18.54
09976> | 03:EX-2 DT= 1.00 | Total Imp(%)= 35.00 Dir. Conn.(%)= 25.00
09977> -----
09978> IMPERVIOUS PERVIOUS (i)
09979> Surface Area (ha)= 6.49 12.05
09980> Dep. Storage (mm)= 2.00 5.00
09981> Average Slope (%)= 1.00 2.00
09982> Length (m)= 90.00 50.00
09983> Mannings n = .013 .250
09984>
09985> Max.eff.Inten.(mm/hr)= 274.73 34.87
09986> over (min) 2.00 14.00
09987> Storage Coeff. (min)= 1.60 (ii) 13.90 (ii)
09988> Unit Hyd. Tpeak (min)= 2.00 14.00
09989> Unit Hyd. peak (cms)= .64 .08
09990>

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09991>
09992> PEAK FLOW (cms)= 3.39 .71 *TOTALS*
09993> TIME TO PEAK (hrs)= 1.00 1.00 3.512 (iii)
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 PVIOUS 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>
10023> PEAK FLOW (cms)= .21 .02 *TOTALS*
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 PVIOUS 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 2.00 .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> +IDS 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>
10087> PEAK FLOW (cms)= .26 .00 *TOTALS*
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 PVIOUS 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

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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>
10135> PEAK FLOW (cms)= .00 .11 *TOTALS*
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 PVIOUS 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>
10243> PEAK FLOW (cms)= .00 .13 *TOTALS*
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 PVIOUS 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

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10261> +ID2 02:C108 .61 .129 1.08 39.68 .000
10262> SUM 04:CENTER-W 12.57 .255 2.13 16.55 .000
10263>
10264>
10265> NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
10266>
10267> -----
10268> 001:0440-----
10269> *****
10270> *#
10271> *# PROPOSED ULTIMATE DEVELOPMENT CONDITIONS
10272> *#
10273> *#
10274> *****
10275> | CALIB STANDHYD | Area (ha)= .43
10276> | 01:B100 DT= 1.00 | Total Imp(%)= 80.00 Dir. Conn.(%)= 60.00
10277> -----
10278> IMPERVIOUS PERVIOUS (i)
10279> Surface Area (ha)= .34 .09
10280> Dep. Storage (mm)= 2.00 5.00
10281> Average Slope (%)= 1.00 2.00
10282> Length (m)= 90.00 25.00
10283> Mannings n = .013 .250
10284>
10285> Max.eff.Inten.(mm/hr)= 274.73 120.39
10286> over (min) 2.00 7.00
10287> Storage Coeff. (min)= 1.60 (ii) 6.54 (ii)
10288> Unit Hyd. Tpeak (min)= 2.00 7.00
10289> Unit Hyd. peak (cms)= .64 .17
10290>
10291> PEAK FLOW (cms)= .19 .02 *TOTALS*
10292> TIME TO PEAK (hrs)= 1.00 1.12 1.000
10293> RUNOFF VOLUME (mm)= 84.60 25.02 60.768
10294> TOTAL RAINFALL (mm)= 86.60 86.60 86.603
10295> RUNOFF COEFFICIENT = .98 .29 .702
10296>
10297> (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
10298> CN* = 39.0 Ia = Dep. Storage (Above)
10299> (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
10300> THAN THE STORAGE COEFFICIENT.
10301> (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
10302>
10303> -----
10304> 001:0441-----
10305> -----
10306> | COMPUTE DUALHYD | Average inlet capacities [CINLET] = .077 (cms)
10307> | TotalHyd 01:B100 | Number of inlets in system [NINLET] = 1
10308> | | Total minor system capacity = .077 (cms)
10309> | | Total major system storage [TMJSTO] = 0. (cu.m.)
10310> -----
10311> ID: NHYD AREA QPEAK TPEAK R.V. DWF
10312> (ha) (cms) (hrs) (mm) (cms)
10313> TOTAL HYD. 01:B100 .43 .198 1.000 60.768 .000
10314> -----
10315> MAJOR SYST 03:toCW1 .08 .121 1.000 60.768 .000
10316> MINOR SYST 02:toSWMF .35 .077 .933 60.768 .000
10317>
10318> NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
10319>
10320> -----
10321> 001:0442-----
10322> -----
10323> | CALIB STANDHYD | Area (ha)= 4.00
10324> | 01:C303 DT= 1.00 | Total Imp(%)= 40.00 Dir. Conn.(%)= 30.00
10325> -----
10326> IMPERVIOUS PERVIOUS (i)
10327> Surface Area (ha)= 1.60 2.40
10328> Dep. Storage (mm)= 2.00 5.00
10329> Average Slope (%)= 1.00 2.00
10330> Length (m)= 90.00 25.00
10331> Mannings n = .013 .250
10332>
10333> Max.eff.Inten.(mm/hr)= 274.73 41.73
10334> over (min) 2.00 9.00
10335> Storage Coeff. (min)= 1.60 (ii) 9.15 (ii)
10336> Unit Hyd. Tpeak (min)= 2.00 9.00
10337> Unit Hyd. peak (cms)= .64 .12
10338>
10339> PEAK FLOW (cms)= .88 .18 *TOTALS*
10340> TIME TO PEAK (hrs)= 1.00 1.18 1.000
10341> RUNOFF VOLUME (mm)= 84.60 16.02 36.598
10342> TOTAL RAINFALL (mm)= 86.60 86.60 86.603
10343> RUNOFF COEFFICIENT = .98 .19 .423
10344>
10345> (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
10346> CN* = 39.0 Ia = Dep. Storage (Above)
10347> (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
10348> THAN THE STORAGE COEFFICIENT.
10349> (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
10350>
10351> -----
10352> 001:0443-----
10353> -----
10354> | COMPUTE DUALHYD | Average inlet capacities [CINLET] = .440 (cms)
10355> | TotalHyd 01:C303 | Number of inlets in system [NINLET] = 1
10356> | | Total minor system capacity = .440 (cms)
10357> | | Total major system storage [TMJSTO] = 0. (cu.m.)
10358> -----
10359> ID: NHYD AREA QPEAK TPEAK R.V. DWF
10360> (ha) (cms) (hrs) (mm) (cms)
10361> TOTAL HYD. 01:C303 4.00 .932 1.000 36.598 .000
10362> -----
10363> MAJOR SYST 05:toCW2 .52 .492 1.000 36.598 .000
10364> MINOR SYST 04:toSWMF 3.48 .440 .933 36.598 .000
10365>
10366> NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
10367>
10368> -----
10369> 001:0444-----
10370> -----
10371> | CALIB STANDHYD | Area (ha)= 1.14
10372> | 01:C309 DT= 1.00 | Total Imp(%)= 62.00 Dir. Conn.(%)= 57.00
10373> -----
10374> IMPERVIOUS PERVIOUS (i)
10375> Surface Area (ha)= .71 .43
10376> Dep. Storage (mm)= 2.00 5.00
10377> Average Slope (%)= 1.00 2.00
10378> Length (m)= 90.00 25.00
10379> Mannings n = .013 .250
10380>
10381> Max.eff.Inten.(mm/hr)= 274.73 39.30
10382> over (min) 2.00 9.00
10383> Storage Coeff. (min)= 1.60 (ii) 9.34 (ii)
10384> Unit Hyd. Tpeak (min)= 2.00 9.00
10385> Unit Hyd. peak (cms)= .64 .12
10386>
10387> PEAK FLOW (cms)= .48 .03 *TOTALS*
10388> TIME TO PEAK (hrs)= 1.00 1.18 1.000
10389> RUNOFF VOLUME (mm)= 84.60 15.59 54.927
10390> TOTAL RAINFALL (mm)= 86.60 86.60 86.603
10391> RUNOFF COEFFICIENT = .98 .18 .634
10392>
10393> (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
10394> CN* = 39.0 Ia = Dep. Storage (Above)
10395> (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL

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10396> THAN THE STORAGE COEFFICIENT.
10397> (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
10398>
10399> -----
10400> 001:0445-----
10401> -----
10402> | COMPUTE DUALHYD | Average inlet capacities [CINLET] = .237 (cms)
10403> | TotalHyd 01:C309 | Number of inlets in system [NINLET] = 1
10404> | | Total minor system capacity = .237 (cms)
10405> | | Total major system storage [TMJSTO] = 0. (cu.m.)
10406> -----
10407> ID: NHYD AREA QPEAK TPEAK R.V. DWF
10408> (ha) (cms) (hrs) (mm) (cms)
10409> TOTAL HYD. 01:C309 1.14 .484 1.000 54.927 .000
10410> -----
10411> MAJOR SYST 07:toCW3 .15 .247 1.000 54.927 .000
10412> MINOR SYST 06:toSWMF .99 .237 .933 54.927 .000
10413>
10414> NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
10415>
10416> -----
10417> 001:0446-----
10418> -----
10419> | CALIB STANDHYD | Area (ha)= .27
10420> | 01:C308 DT= 1.00 | Total Imp(%)= 90.00 Dir. Conn.(%)= 90.00
10421> -----
10422> IMPERVIOUS PERVIOUS (i)
10423> Surface Area (ha)= .24 .03
10424> Dep. Storage (mm)= 2.00 5.00
10425> Average Slope (%)= 1.00 2.00
10426> Length (m)= 90.00 40.00
10427> Mannings n = .013 .250
10428>
10429> Max.eff.Inten.(mm/hr)= 274.73 26.28
10430> over (min) 2.00 14.00
10431> Storage Coeff. (min)= 1.60 (ii) 13.65 (ii)
10432> Unit Hyd. Tpeak (min)= 2.00 14.00
10433> Unit Hyd. peak (cms)= .64 .08
10434>
10435> PEAK FLOW (cms)= .18 .00 *TOTALS*
10436> TIME TO PEAK (hrs)= 1.00 1.28 1.000
10437> RUNOFF VOLUME (mm)= 84.60 13.91 77.533
10438> TOTAL RAINFALL (mm)= 86.60 86.60 86.603
10439> RUNOFF COEFFICIENT = .98 .16 .895
10440>
10441> (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
10442> CN* = 39.0 Ia = Dep. Storage (Above)
10443> (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
10444> THAN THE STORAGE COEFFICIENT.
10445> (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
10446>
10447> -----
10448> 001:0447-----
10449> -----
10450> | COMPUTE DUALHYD | Average inlet capacities [CINLET] = .025 (cms)
10451> | TotalHyd 01:C308 | Number of inlets in system [NINLET] = 1
10452> | | Total minor system capacity = .025 (cms)
10453> | | Total major system storage [TMJSTO] = 0. (cu.m.)
10454> -----
10455> ID: NHYD AREA QPEAK TPEAK R.V. DWF
10456> (ha) (cms) (hrs) (mm) (cms)
10457> TOTAL HYD. 01:C308 .27 .178 1.000 77.533 .000
10458> -----
10459> MAJOR SYST 09:toCW4 .12 .153 1.000 77.533 .000
10460> MINOR SYST 08:toSWMF .15 .025 .800 77.533 .000
10461>
10462> NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
10463>
10464> -----
10465> 001:0448-----
10466> -----
10467> | CALIB NASHYD | Area (ha)= 9.89 Curve Number (CN)=34.00
10468> | 01:C304 DT= 1.00 | Ia (mm)= 8.000 # of Linear Res. (N)= 3.00
10469> | | U.H. Tp(hrs)= .510
10470>
10471> Unit Hyd Qpeak (cms)= .741
10472>
10473> PEAK FLOW (cms)= .205 (i)
10474> TIME TO PEAK (hrs)= 1.717
10475> RUNOFF VOLUME (mm)= 10.808
10476> TOTAL RAINFALL (mm)= 86.603
10477> RUNOFF COEFFICIENT = .125
10478>
10479> (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
10480>
10481> -----
10482> 001:0449-----
10483> -----
10484> | ADD HYD (CENTER-W ) | ID: NHYD AREA QPEAK TPEAK R.V. DWF
10485> (ha) (cms) (hrs) (mm) (cms)
10486> ID1 01:C304 9.89 .205 1.72 10.81 .000
10487> +ID2 03:toCW1 .08 .121 1.00 60.77 .000
10488> +ID3 05:toCW2 .52 .492 1.00 36.60 .000
10489> +ID4 07:toCW3 .15 .247 1.00 54.93 .000
10490> +ID5 09:toCW4 .12 .153 1.00 77.53 .000
10491> -----
10492> SUM 10:CENTER-W 10.76 1.019 1.00 13.80 .000
10493>
10494> NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
10495>
10496> -----
10497> 001:0450-----
10498> -----
10499> | ROUTE RESERVOIR | Requested routing time step = 1.0 min.
10500> | IN>10: (CENTER) |
10501> | OUT<01: (CW-SSD) | ===== OUTFLOW STORAGE TABLE =====
10502> OUTFLOW STORAGE | OUTFLOW STORAGE
10503> (cms) (ha.m.) | (cms) (ha.m.)
10504> .000 .0000E+00 | .222 .6400E+00
10505> .000 .3700E+00 | .000 .0000E+00
10506>
10507> ROUTING RESULTS AREA QPEAK TPEAK R.V.
10508> (ha) (cms) (hrs) (mm)
10509> INFLOW >10: (CENTER) 10.76 1.019 1.000 13.803
10510> OUTFLOW<01: (CW-SSD) 10.76 .000 .000 .000
10511> OVERFLOW<03: (toWT1) .00 .000 .000 .000
10512>
10513> TOTAL NUMBER OF SIMULATED OVERFLOWS = 0
10514> CUMULATIVE TIME OF OVERFLOWS (hours)= .00
10515> PERCENTAGE OF TIME OVERFLOWING (%) = .00
10516>
10517>
10518> PEAK FLOW REDUCTION [Qout/Qin](%) = .000
10519> TIME SHIFT OF PEAK FLOW (min)= -60.00
10520> MAXIMUM STORAGE USED (ha.m.)=1486E+00
10521>
10522> *** WARNING: Outflow volume is less than inflow volume.
10523>
10524> 001:0451-----
10525> -----
10526> | CALIB STANDHYD | Area (ha)= .44
10527> | 05:C207 DT= 1.00 | Total Imp(%)= 35.00 Dir. Conn.(%)= 25.00
10528> -----
10529> IMPERVIOUS PERVIOUS (i)
10530> Surface Area (ha)= .15 .29

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10531> Dep. Storage (mm)= 2.00 5.00
10532> Average Slope (%)= 1.00 2.00
10533> Length (m)= 90.00 25.00
10534> Mannings n = .013 .250
10535>
10536> Max.eff.Inten.(mm/hr)= 274.73 40.83
10537> over (min) 2.00 9.00
10538> Storage Coeff. (min)= 1.60 (ii) 9.22 (ii)
10539> Unit Hyd. Tpeak (min)= 2.00 9.00
10540> Unit Hyd. peak (cms)= .64 .12
10541>
10542> PEAK FLOW (cms)= .08 .02 *.TOTALS*
10543> TIME TO PEAK (hrs)= 1.00 1.18
10544> RUNOFF VOLUME (mm)= 84.60 15.87 33.050
10545> TOTAL RAINFALL (mm)= 86.60 86.60 86.603
10546> RUNOFF COEFFICIENT = .98 .18 .382
10547>
10548> (i) CN PROCEDURE SELECTED FOR PVIOUS LOSSES:
10549> CN* = 39.0 Ia = Dep. Storage (Above)
10550> (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
10551> THAN THE STORAGE COEFFICIENT.
10552> (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
10553>
10554> -----
10555> 001:0452-----
10556>
10557> | COMPUTE DUALHYD | Average inlet capacities [CINLET] = .064 (cms)
10558> | TotalHyd 05:C207 | Number of inlets in system [NINLET] = 1
10559> | | Total minor system capacity = .064 (cms)
10560> | | Total major system storage [TMJSTO] = 0. (cu.m.)
10561>
10562> ID: NHYD AREA QPEAK TPEAK R.V. DWF
10563> (ha) (cms) (hrs) (mm) (cms)
10564> TOTAL HYD. 05:C207 .44 .087 1.000 33.050 .000
10565>
10566> MAJOR SYST 09:toET1 .01 .023 1.000 33.050 .000
10567> MINOR SYST 07:toSWMF .43 .064 .967 33.050 .000
10568>
10569> NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
10570>
10571> -----
10572> 001:0453-----
10573>
10574> | CALIB STANDHYD | Area (ha)= .93
10575> | 05:C208 DT= 1.00 | Total Imp(%)= 35.00 Dir. Conn.(%)= 25.00
10576>
10577> IMPERVIOUS PVIOUS (i)
10578> Surface Area (ha)= 2.00 5.00
10579> Dep. Storage (mm)= 2.00 5.00
10580> Average Slope (%)= 1.00 2.00
10581> Length (m)= 90.00 25.00
10582> Mannings n = .013 .250
10583>
10584> Max.eff.Inten.(mm/hr)= 274.73 40.83
10585> over (min) 2.00 9.00
10586> Storage Coeff. (min)= 1.60 (ii) 9.22 (ii)
10587> Unit Hyd. Tpeak (min)= 2.00 9.00
10588> Unit Hyd. peak (cms)= .64 .12
10589>
10590> PEAK FLOW (cms)= .17 .04 *.TOTALS*
10591> TIME TO PEAK (hrs)= 1.00 1.18
10592> RUNOFF VOLUME (mm)= 84.60 15.87 33.050
10593> TOTAL RAINFALL (mm)= 86.60 86.60 86.603
10594> RUNOFF COEFFICIENT = .98 .18 .382
10595>
10596> (i) CN PROCEDURE SELECTED FOR PVIOUS LOSSES:
10597> CN* = 39.0 Ia = Dep. Storage (Above)
10598> (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
10599> THAN THE STORAGE COEFFICIENT.
10600> (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
10601>
10602> -----
10603> 001:0454-----
10604>
10605> | COMPUTE DUALHYD | Average inlet capacities [CINLET] = .119 (cms)
10606> | TotalHyd 05:C208 | Number of inlets in system [NINLET] = 1
10607> | | Total minor system capacity = .119 (cms)
10608> | | Total major system storage [TMJSTO] = 0. (cu.m.)
10609>
10610> ID: NHYD AREA QPEAK TPEAK R.V. DWF
10611> (ha) (cms) (hrs) (mm) (cms)
10612> TOTAL HYD. 05:C208 .93 .183 1.000 33.050 .000
10613>
10614> MAJOR SYST 03:toET2 .05 .065 1.000 33.050 .000
10615> MINOR SYST 01:toSWMF .88 .119 .950 33.050 .000
10616>
10617> NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
10618>
10619> -----
10620> 001:0455-----
10621>
10622> | ADD HYD (toSWMF1A ) | ID: NHYD AREA QPEAK TPEAK R.V. DWF
10623> (ha) (cms) (hrs) (mm) (cms)
10624> ID1 01:toSWMF6 .88 .119 .95 33.05 .000
10625> +ID2 02:toSWMF1 .35 .077 .93 60.77 .000
10626> +ID3 04:toSWMF2 3.48 .440 .93 36.60 .000
10627> +ID4 06:toSWMF3 .99 .237 .93 54.93 .000
10628> +ID5 07:toSWMF5 .43 .064 .97 33.05 .000
10629> +ID6 08:toSWMF4 .15 .025 .80 77.53 .000
10630>
10631> SUM 05:toSWMF1A 6.27 .962 .97 41.07 .000
10632>
10633> NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
10634>
10635> -----
10636> 001:0456-----
10637>
10638> | CALIB STANDHYD | Area (ha)= 12.10
10639> | 01:C302 DT= 1.00 | Total Imp(%)= 41.00 Dir. Conn.(%)= 31.00
10640>
10641> IMPERVIOUS PVIOUS (i)
10642> Surface Area (ha)= 4.96 7.14
10643> Dep. Storage (mm)= 2.00 5.00
10644> Average Slope (%)= 1.00 2.00
10645> Length (m)= 90.00 25.00
10646> Mannings n = .013 .250
10647>
10648> Max.eff.Inten.(mm/hr)= 274.73 41.93
10649> over (min) 2.00 9.00
10650> Storage Coeff. (min)= 1.60 (ii) 9.14 (ii)
10651> Unit Hyd. Tpeak (min)= 2.00 9.00
10652> Unit Hyd. peak (cms)= .64 .12
10653>
10654> PEAK FLOW (cms)= 2.74 .53 *.TOTALS*
10655> TIME TO PEAK (hrs)= 1.00 1.18
10656> RUNOFF VOLUME (mm)= 84.60 16.06 37.308
10657> TOTAL RAINFALL (mm)= 86.60 86.60 86.603
10658> RUNOFF COEFFICIENT = .98 .19 .431
10659>
10660> (i) CN PROCEDURE SELECTED FOR PVIOUS LOSSES:
10661> CN* = 39.0 Ia = Dep. Storage (Above)
10662> (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
10663> THAN THE STORAGE COEFFICIENT.
10664> (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
10665>

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10666> -----
10667> 001:0457-----
10668>
10669> | CALIB STANDHYD | Area (ha)= 1.29
10670> | 02:C203 DT= 1.00 | Total Imp(%)= 68.00 Dir. Conn.(%)= 66.00
10671>
10672> IMPERVIOUS PVIOUS (i)
10673> Surface Area (ha)= 2.00 5.00
10674> Dep. Storage (mm)= 2.00 5.00
10675> Average Slope (%)= .50 2.00
10676> Length (m)= 100.00 100.00
10677> Mannings n = .013 .250
10678>
10679> Max.eff.Inten.(mm/hr)= 274.73 22.73
10680> over (min) 2.00 24.00
10681> Storage Coeff. (min)= 2.10 (ii) 24.22 (ii)
10682> Unit Hyd. Tpeak (min)= 2.00 24.00
10683> Unit Hyd. peak (cms)= .54 .05
10684>
10685> PEAK FLOW (cms)= .60 .01 *.TOTALS*
10686> TIME TO PEAK (hrs)= 1.00 1.47
10687> RUNOFF VOLUME (mm)= 84.60 14.71 60.841
10688> TOTAL RAINFALL (mm)= 86.60 86.60 86.603
10689> RUNOFF COEFFICIENT = .98 .17 .703
10690>
10691> (i) CN PROCEDURE SELECTED FOR PVIOUS LOSSES:
10692> CN* = 39.0 Ia = Dep. Storage (Above)
10693> (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
10694> THAN THE STORAGE COEFFICIENT.
10695> (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
10696>
10697> -----
10698> 001:0458-----
10699>
10700> | ADD HYD (toSWMF2A ) | ID: NHYD AREA QPEAK TPEAK R.V. DWF
10701> (ha) (cms) (hrs) (mm) (cms)
10702> ID1 01:C302 12.10 2.906 1.00 37.31 .000
10703> +ID2 02:C203 1.29 .599 1.00 60.84 .000
10704> +ID3 05:toSWMF1A 6.27 .962 .97 41.07 .000
10705>
10706> SUM 04:toSWMF2A 19.66 4.468 1.00 40.05 .000
10707>
10708> NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
10709>
10710> -----
10711> 001:0459-----
10712>
10713> ROUTE RESERVOIR | Requested routing time step = 1.0 min.
10714> | IN>04: (toSWMF) |
10715> | OUT<01: (SWMF ) |
10716>
10717> ===== OUTFLOW STORAGE TABLE =====
10718> (cms) (ha.m.) | (cms) (ha.m.)
10719> .000 .0000E+00 | .340 .2740E+00
10720> .011 .2900E-01 | .697 .3140E+00
10721> .015 .6000E-01 | 1.206 .3540E+00
10722> .019 .9200E-01 | 1.880 .3960E+00
10723> .022 .1260E+00 | 2.734 .4380E+00
10724> .024 .1610E+00 | 3.779 .4820E+00
10725> .027 .1980E+00 | 5.029 .5260E+00
10726> .120 .2360E+00 | .000 .0000E+00
10727>
10728> ROUTING RESULTS AREA QPEAK TPEAK R.V.
10729> (ha) (cms) (hrs) (mm)
10730> INFLOW >04: (toSWMF) 19.66 4.468 1.000 40.051
10731> OUTFLOW<01: (SWMF ) 19.66 1.656 1.283 40.050
10732> OVERFLOW<02: (OverQ) .00 .000 .000 .000
10733>
10734> TOTAL NUMBER OF SIMULATED OVERFLOWS = 0
10735> CUMULATIVE TIME OF OVERFLOWS (hours)= .00
10736> PERCENTAGE OF TIME OVERFLOWING (%)= .00
10737>
10738> PEAK FLOW REDUCTION [Qout/Qin](%)= 37.068
10739> TIME SHIFT OF PEAK FLOW (min)= 17.00
10740> MAXIMUM STORAGE USED (ha.m.)=.3821E+00
10741>
10742> -----
10743> 001:0460-----
10744>
10745> | CALIB STANDHYD | Area (ha)= 18.54
10746> | 04:EX-2 DT= 1.00 | Total Imp(%)= 35.00 Dir. Conn.(%)= 25.00
10747>
10748> IMPERVIOUS PVIOUS (i)
10749> Surface Area (ha)= 6.49 12.05
10750> Dep. Storage (mm)= 2.00 5.00
10751> Average Slope (%)= 1.00 2.00
10752> Length (m)= 90.00 50.00
10753> Mannings n = .013 .250
10754>
10755> Max.eff.Inten.(mm/hr)= 274.73 34.87
10756> over (min) 2.00 14.00
10757> Storage Coeff. (min)= 1.60 (ii) 13.90 (ii)
10758> Unit Hyd. Tpeak (min)= 2.00 14.00
10759> Unit Hyd. peak (cms)= .64 .08
10760>
10761> PEAK FLOW (cms)= 3.39 .71 *.TOTALS*
10762> TIME TO PEAK (hrs)= 1.00 1.28
10763> RUNOFF VOLUME (mm)= 84.60 15.87 33.050
10764> TOTAL RAINFALL (mm)= 86.60 86.60 86.603
10765> RUNOFF COEFFICIENT = .98 .18 .382
10766>
10767> (i) CN PROCEDURE SELECTED FOR PVIOUS LOSSES:
10768> CN* = 39.0 Ia = Dep. Storage (Above)
10769> (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
10770> THAN THE STORAGE COEFFICIENT.
10771> (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
10772>
10773> -----
10774> 001:0461-----
10775>
10776> | CALIB STANDHYD | Area (ha)= .51
10777> | 05:C209 DT= 1.00 | Total Imp(%)= 61.00 Dir. Conn.(%)= 55.00
10778>
10779> IMPERVIOUS PVIOUS (i)
10780> Surface Area (ha)= .31 .20
10781> Dep. Storage (mm)= 2.00 5.00
10782> Average Slope (%)= 1.00 2.00
10783> Length (m)= 90.00 10.00
10784> Mannings n = .013 .250
10785>
10786> Max.eff.Inten.(mm/hr)= 274.73 43.35
10787> over (min) 2.00 6.00
10788> Storage Coeff. (min)= 1.60 (ii) 5.89 (ii)
10789> Unit Hyd. Tpeak (min)= 2.00 6.00
10790> Unit Hyd. peak (cms)= .64 .19
10791>
10792> PEAK FLOW (cms)= .21 .02 *.TOTALS*
10793> TIME TO PEAK (hrs)= 1.00 1.12
10794> RUNOFF VOLUME (mm)= 84.60 15.87 53.671
10795> TOTAL RAINFALL (mm)= 86.60 86.60 86.603
10796> RUNOFF COEFFICIENT = .98 .18 .620
10797>
10798> (i) CN PROCEDURE SELECTED FOR PVIOUS LOSSES:
10799> CN* = 39.0 Ia = Dep. Storage (Above)
10800> (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL

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10801>      THAN THE STORAGE COEFFICIENT.
10802>      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
10803> -----
10804> -----
10805> 001:0462-----
10806> -----
10807> | COMPUTE DUALHYD | Average inlet capacities [CINLET] = .109 (cms)
10808> | TotalHyd 05:C209 | Number of inlets in system [NINLET] = 1
10809> -----
10810> | Total minor system capacity = .109 (cms)
10811> | Total major system storage [TMJSTO] = 0 (cu.m.)
10812> -----
10813> ID: NHYD AREA QPEAK TPEAK R.V. DWF
10814> 05:C209 .51 .214 1.000 53.671 .000
10815> -----
10816> MAJOR SYST 07:toET3 .06 .104 1.000 53.671 .000
10817> MINOR SYST 06:toWT2 .45 .109 .950 53.671 .000
10818> -----
10819> NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
10820> -----
10821> -----
10822> 001:0463-----
10823> -----
10824> | ADD HYD (EAST-T ) | ID: NHYD AREA QPEAK TPEAK R.V. DWF
10825> (ha) (cms) (hrs) (mm) (cms)
10826> ID1 01:SWMP 19.66 1.656 1.28 40.05 .000
10827> +ID2 02:OverQ .00 .000 .00 .00 .000
10828> +ID3 03:toET2 .05 .065 1.00 33.05 .000
10829> +ID4 04:EX-2 18.54 3.512 1.00 33.05 .000
10830> +ID5 07:toET3 .06 .104 1.00 53.67 .000
10831> +ID6 09:toET1 .01 .023 1.00 33.05 .000
10832> -----
10833> SUM 05:EAST-T 38.33 3.767 1.00 36.67 .000
10834> -----
10835> NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
10836> -----
10837> -----
10838> 001:0464-----
10839> -----
10840> | CALIB STANDHYD | Area (ha)= .39
10841> | 01:C210 DT= 1.00 | Total Imp(%)= 90.00 Dir. Conn.(%)= 90.00
10842> -----
10843> IMPERVIOUS PERVIOUS (i)
10844> Surface Area (ha)= .35 .04
10845> Dep. Storage (mm)= 2.00 5.00
10846> Average Slope (%)= 1.00 2.00
10847> Length (m)= 90.00 10.00
10848> Mannings n = .013 .250
10849> -----
10850> Max.eff.Inten.(mm/hr)= 274.73 32.53
10851> over (min) 2.00 6.00
10852> Storage Coeff. (min)= 1.60 (ii) 6.42 (ii)
10853> Unit Hyd. Tpeak (min)= 2.00 6.00
10854> Unit Hyd. peak (cms)= .64 .18
10855> -----
10856> PEAK FLOW (cms)= .26 .00 *TOTALS*
10857> TIME TO PEAK (hrs)= 1.00 1.13 .122 (iii)
10858> RUNOFF VOLUME (mm)= 84.60 13.91 77.53
10859> TOTAL RAINFALL (mm)= 86.60 86.60 86.603
10860> RUNOFF COEFFICIENT = .98 .16 .895
10861> -----
10862> (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
10863> CN* = 39.0 Ia = Dep. Storage (Above)
10864> (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
10865> THAN THE STORAGE COEFFICIENT.
10866> (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
10867> -----
10868> -----
10869> 001:0465-----
10870> -----
10871> | CALIB STANDHYD | Area (ha)= .27
10872> | 02:C307 DT= 1.00 | Total Imp(%)= 90.00 Dir. Conn.(%)= 1.00
10873> -----
10874> IMPERVIOUS PERVIOUS (i)
10875> Surface Area (ha)= .24 .03
10876> Dep. Storage (mm)= 2.00 5.00
10877> Average Slope (%)= 1.00 2.00
10878> Length (m)= 90.00 10.00
10879> Mannings n = .013 .250
10880> -----
10881> Max.eff.Inten.(mm/hr)= 274.73 1964.55
10882> over (min) 2.00 3.00
10883> Storage Coeff. (min)= 1.60 (ii) 2.53 (ii)
10884> Unit Hyd. Tpeak (min)= 2.00 3.00
10885> Unit Hyd. peak (cms)= .64 .42
10886> -----
10887> PEAK FLOW (cms)= .00 .12 *TOTALS*
10888> TIME TO PEAK (hrs)= 1.00 1.02 .122 (iii)
10889> RUNOFF VOLUME (mm)= 84.60 58.73 58.985
10890> TOTAL RAINFALL (mm)= 86.60 86.60 86.603
10891> RUNOFF COEFFICIENT = .98 .68 .681
10892> -----
10893> (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
10894> CN* = 39.0 Ia = Dep. Storage (Above)
10895> (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
10896> THAN THE STORAGE COEFFICIENT.
10897> (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
10898> -----
10899> -----
10900> 001:0466-----
10901> -----
10902> | CALIB STANDHYD | Area (ha)= 2.61
10903> | 03:C305 DT= 1.00 | Total Imp(%)= 76.00 Dir. Conn.(%)= 57.00
10904> -----
10905> IMPERVIOUS PERVIOUS (i)
10906> Surface Area (ha)= 1.98 .63
10907> Dep. Storage (mm)= 2.00 5.00
10908> Average Slope (%)= 1.00 2.00
10909> Length (m)= 90.00 25.00
10910> Mannings n = .013 .250
10911> -----
10912> Max.eff.Inten.(mm/hr)= 274.73 98.03
10913> over (min) 2.00 7.00
10914> Storage Coeff. (min)= 1.60 (ii) 6.97 (ii)
10915> Unit Hyd. Tpeak (min)= 2.00 7.00
10916> Unit Hyd. peak (cms)= .64 .16
10917> -----
10918> PEAK FLOW (cms)= 1.09 .12 *TOTALS*
10919> TIME TO PEAK (hrs)= 1.00 1.13 1.000
10920> RUNOFF VOLUME (mm)= 84.60 22.99 58.109
10921> TOTAL RAINFALL (mm)= 86.60 86.60 86.603
10922> RUNOFF COEFFICIENT = .98 .27 .671
10923> -----
10924> (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
10925> CN* = 39.0 Ia = Dep. Storage (Above)
10926> (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
10927> THAN THE STORAGE COEFFICIENT.
10928> (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
10929> -----
10930> -----
10931> 001:0467-----
10932> -----
10933> | COMPUTE DUALHYD | Average inlet capacities [CINLET] = .030 (cms)
10934> | TotalHyd 03:C305 | Number of inlets in system [NINLET] = 1
10935> -----
10936> | Total minor system capacity = .030 (cms)

```

```

10937> Total major system storage [TMJSTO] = 730 (cu.m.)
10938> -----
10939> ID: NHYD AREA QPEAK TPEAK R.V. DWF
10940> (ha) (cms) (hrs) (mm) (cms)
10941> TOTAL HYD. 03:C305 2.61 1.140 1.000 58.109 .000
10942> -----
10943> MAJOR SYST 07:toWT3 .85 .468 1.133 58.109 .000
10944> MINOR SYST 04:toPD 1.76 .030 .400 58.210 .000
10945> -----
10946> NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
10947> -----
10948> Maximum MAJOR SYSTEM storage used = 730 (cu.m.)
10949> -----
10950> 001:0468-----
10951> -----
10952> | CALIB NASHYD | Area (ha)= 1.77 Curve Number (CN)=36.00
10953> | 03:C306 DT= 1.00 | Ia (mm)= 8.000 # of Linear Res. (N)= 3.00
10954> | U.H. Tp(hrs)= .580
10955> -----
10956> Unit Hyd Qpeak (cms)= .117
10957> -----
10958> PEAK FLOW (cms)= .036 (i)
10959> TIME TO PEAK (hrs)= 1.800
10960> RUNOFF VOLUME (mm)= 11.654
10961> TOTAL RAINFALL (mm)= 86.603
10962> RUNOFF COEFFICIENT = .135
10963> -----
10964> (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
10965> -----
10966> -----
10967> 001:0469-----
10968> -----
10969> | ADD HYD (WEST-T ) | ID: NHYD AREA QPEAK TPEAK R.V. DWF
10970> (ha) (cms) (hrs) (mm) (cms)
10971> ID1 01:C210 .39 .258 1.00 77.53 .000
10972> +ID2 02:C307 .27 .122 1.02 58.98 .000
10973> +ID3 03:C306 1.77 .036 1.80 11.65 .000
10974> +ID4 04:toPD 1.76 .030 .40 58.21 .000
10975> +ID5 06:toWT2 .45 .109 .95 53.67 .000
10976> +ID6 07:toWT3 .85 .468 1.13 58.11 .000
10977> -----
10978> SUM 08:WEST-T 5.49 .773 1.12 44.22 .000
10979> -----
10980> NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
10981> -----
10982> -----
10983> 001:0470-----
10984> -----
10985> | CALIB NASHYD | Area (ha)= 7.88 Curve Number (CN)=32.00
10986> | 01:C301 DT= 1.00 | Ia (mm)= 8.000 # of Linear Res. (N)= 3.00
10987> | U.H. Tp(hrs)= .510
10988> -----
10989> Unit Hyd Qpeak (cms)= .590
10990> -----
10991> PEAK FLOW (cms)= .151 (i)
10992> TIME TO PEAK (hrs)= 1.717
10993> RUNOFF VOLUME (mm)= 9.992
10994> TOTAL RAINFALL (mm)= 86.603
10995> RUNOFF COEFFICIENT = .115
10996> -----
10997> (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
10998> -----
10999> -----
11000> 001:0471-----
11001> FINISH
11002> -----
11003> *****
11004> WARNINGS / ERRORS / NOTES
11005> -----
11006> 001:0048 ROUTE RESERVOIR
11007> *** WARNING: Outflow volume is less than inflow volume.
11008> 001:0115 ROUTE RESERVOIR
11009> *** WARNING: Outflow volume is less than inflow volume.
11010> 001:0182 ROUTE RESERVOIR
11011> *** WARNING: Outflow volume is less than inflow volume.
11012> 001:0249 ROUTE RESERVOIR
11013> *** WARNING: Outflow volume is less than inflow volume.
11014> 001:0316 ROUTE RESERVOIR
11015> *** WARNING: Outflow volume is less than inflow volume.
11016> 001:0383 ROUTE RESERVOIR
11017> *** WARNING: Outflow volume is less than inflow volume.
11018> 001:0450 ROUTE RESERVOIR
11019> *** WARNING: Outflow volume is less than inflow volume.
11020> Simulation ended on 2024-07-15 at 15:59:01
11021> -----
11022> -----
11023> -----

```

```
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

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(m ²)	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 row = 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 (m ³ /s)	Active Volume (m ³)
	H _o (m)	Flow (m ³ /s)	H _e (m)	Flow (m ³ /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

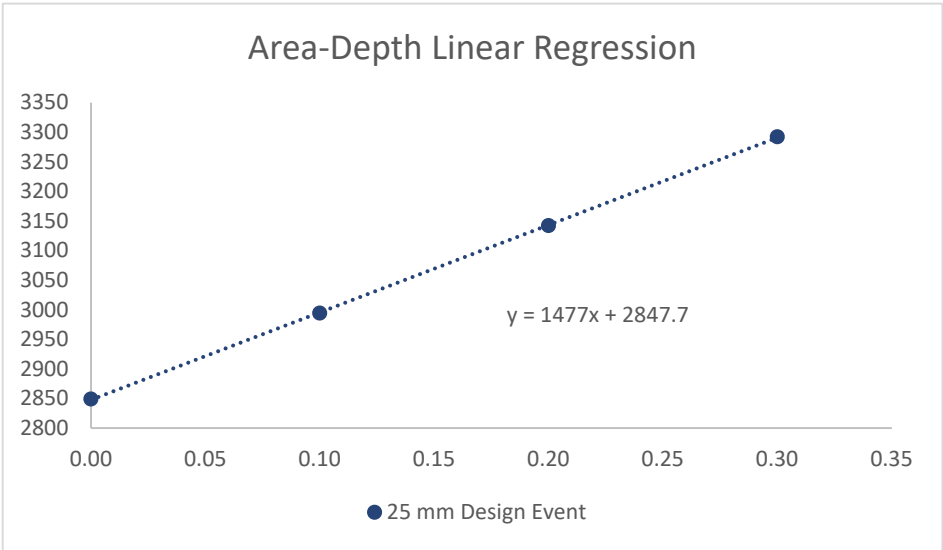
Drawdown time estimate in pond using the falling head orifice equation (SWM Manual, MOE 2003),

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

where,

Parameter	Value	Unit	Description
t	97183	s	Drawdown Time
	27	hr	
d	125	mm	Diameter of Orifice
A ₀	0.01	m ²	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 (m ²)	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)

Note: Surface Areas measured in Civil 3D software.

$\frac{SA_f}{SA_{pp}}$ = 22 %

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(m ²)	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 row = 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 (m ³ /s)	Active Volume (m ³)
	H _o (m)	Flow (m ³ /s)	H _e (m)	Flow (m ³ /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

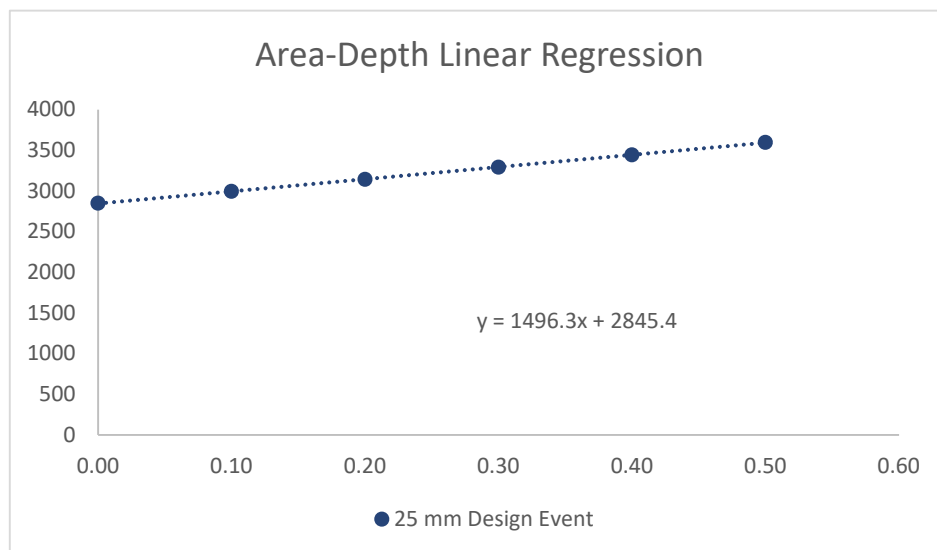
Drawdown time estimate in pond using the falling head orifice equation (SWM Manual, MOE 2003),

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

where,

Parameter	Value	Unit	Description
t	129584	s	Drawdown Time
	36	hr	
d	125	mm	Diameter of Orifice
A ₀	0	m ²	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 (m ²)	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





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_r = 0.5 Desired Velocity in Forebay (m/s)

L = 26.3 m 40.0 m

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

Provided.

3. Minimum Forebay Bottom Width

Dist = 40.0 m

Width = 5.0 m 6.8 m

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

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)

Note: Surface Areas measured in Civil 3D software.

$\frac{SA_f}{SA_{pp}}$ = 22 %

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 the 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

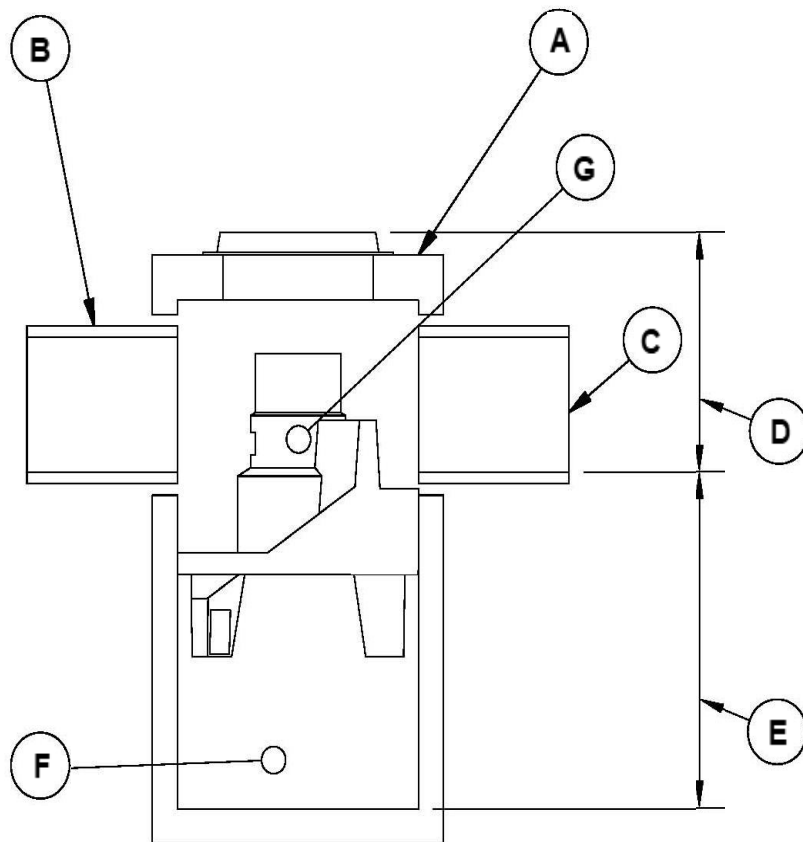
Treatment Requirements		
Treatment Goal:	Enhanced (MOE)	
Selected Parameters:	80% TSS	90% Volume
Selected Unit:	FD-6HC	

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 m ³
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

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:	---



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 approximating 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](mailto: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: lyman Meddoui <imeddoui@westdellcorp.com>

lyman,

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 to 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 Siftions 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:

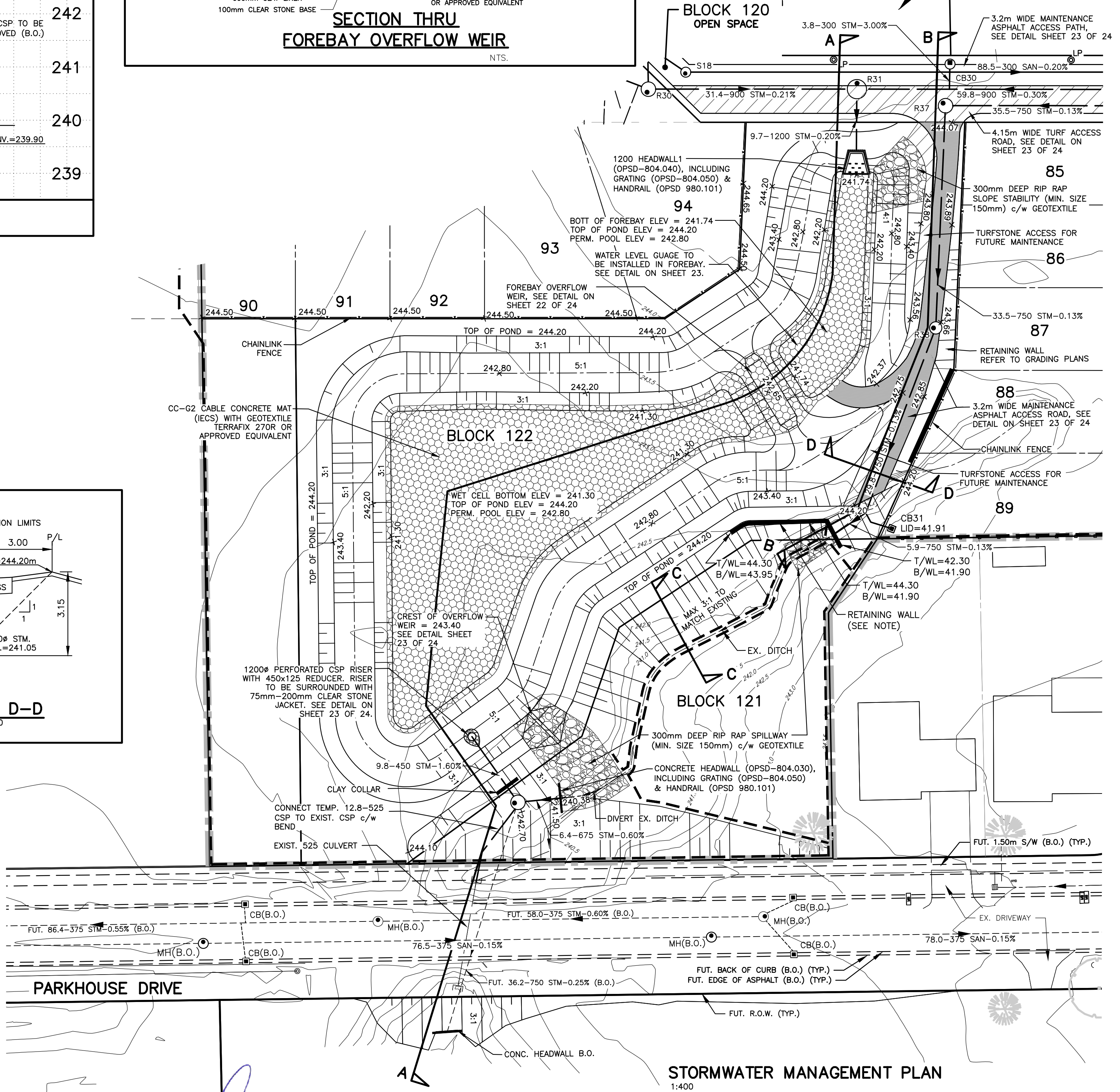
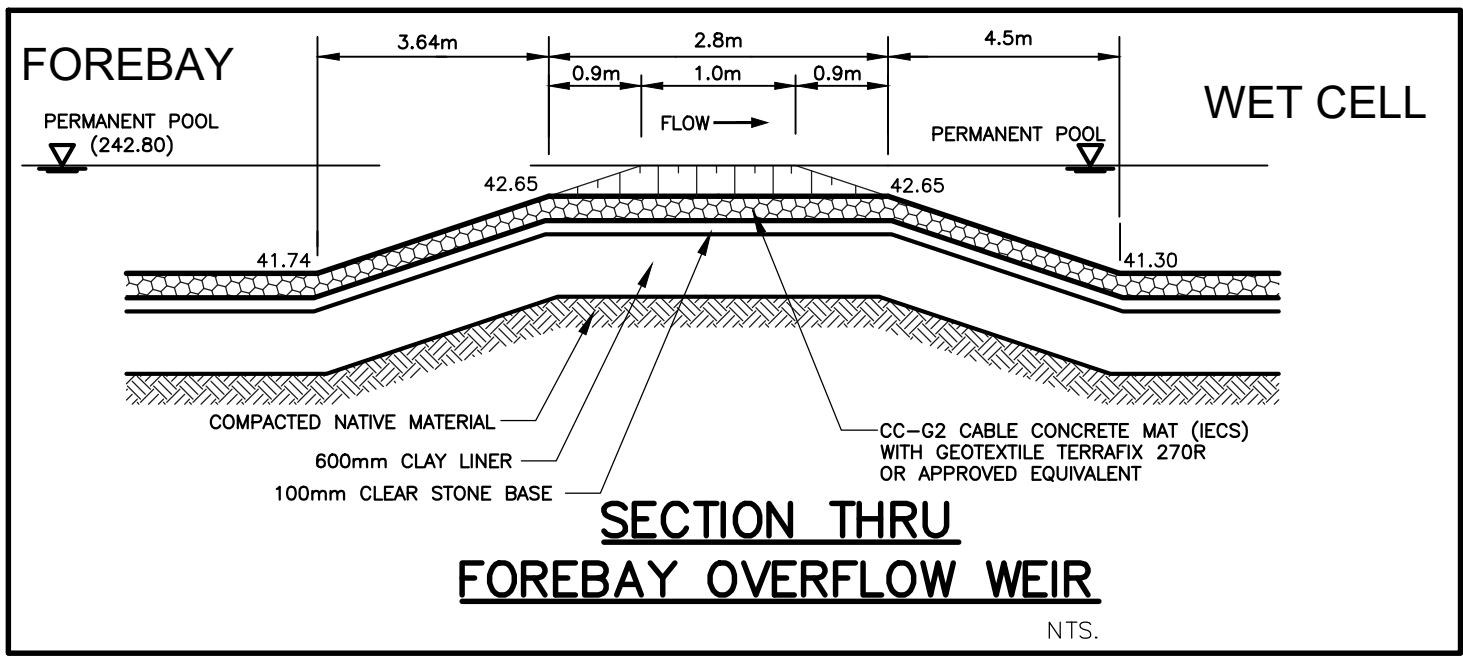
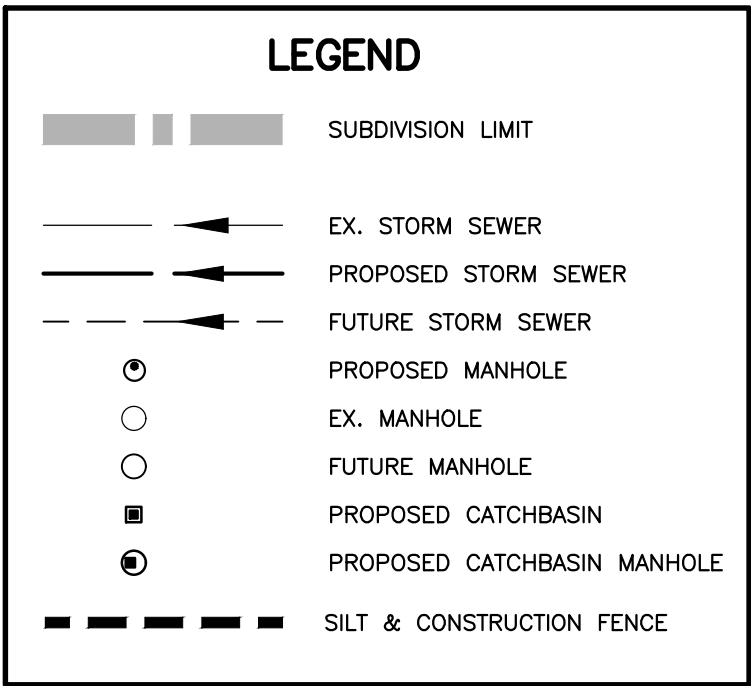
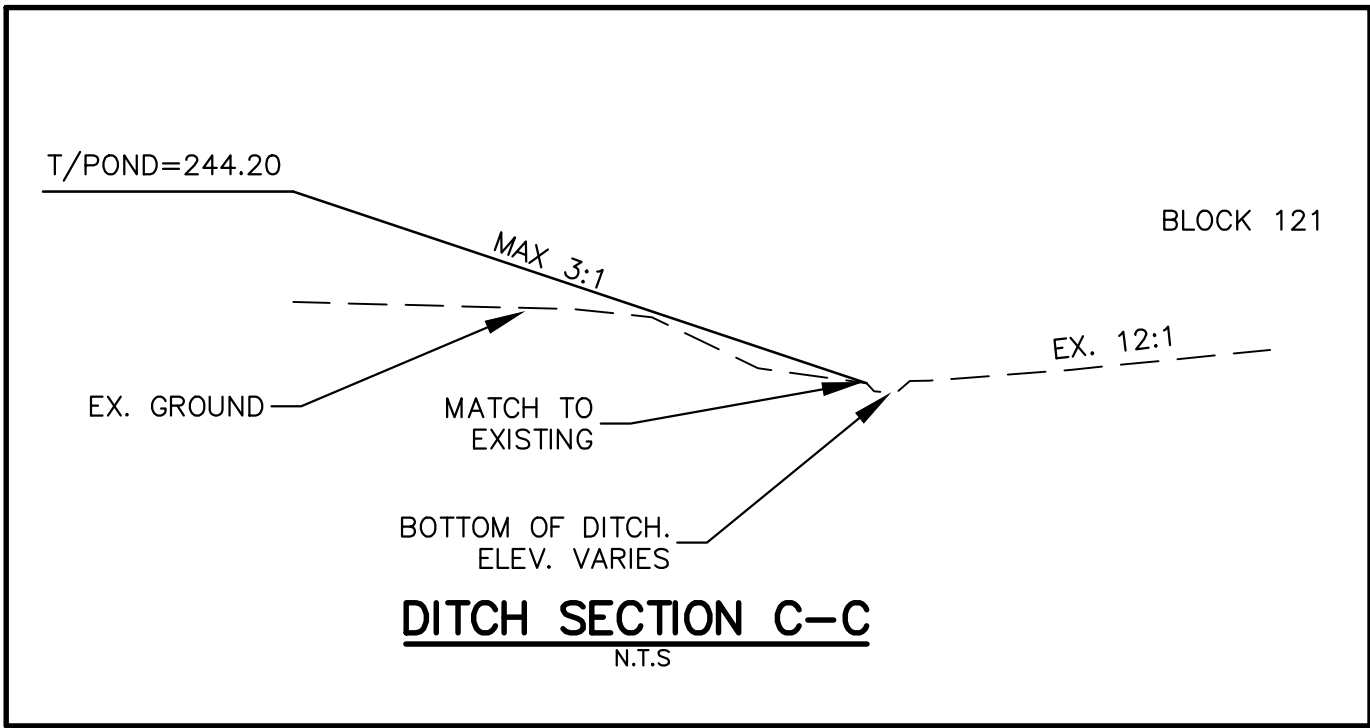
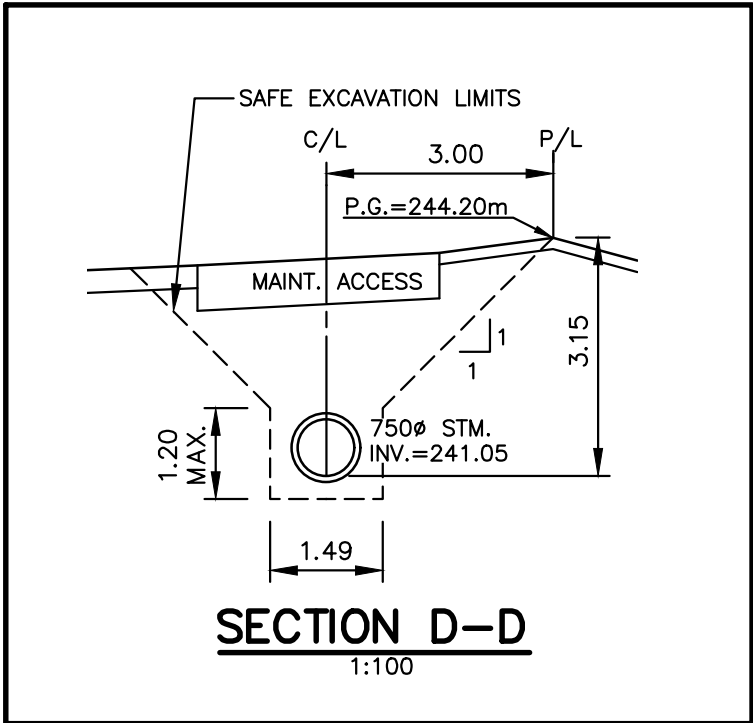
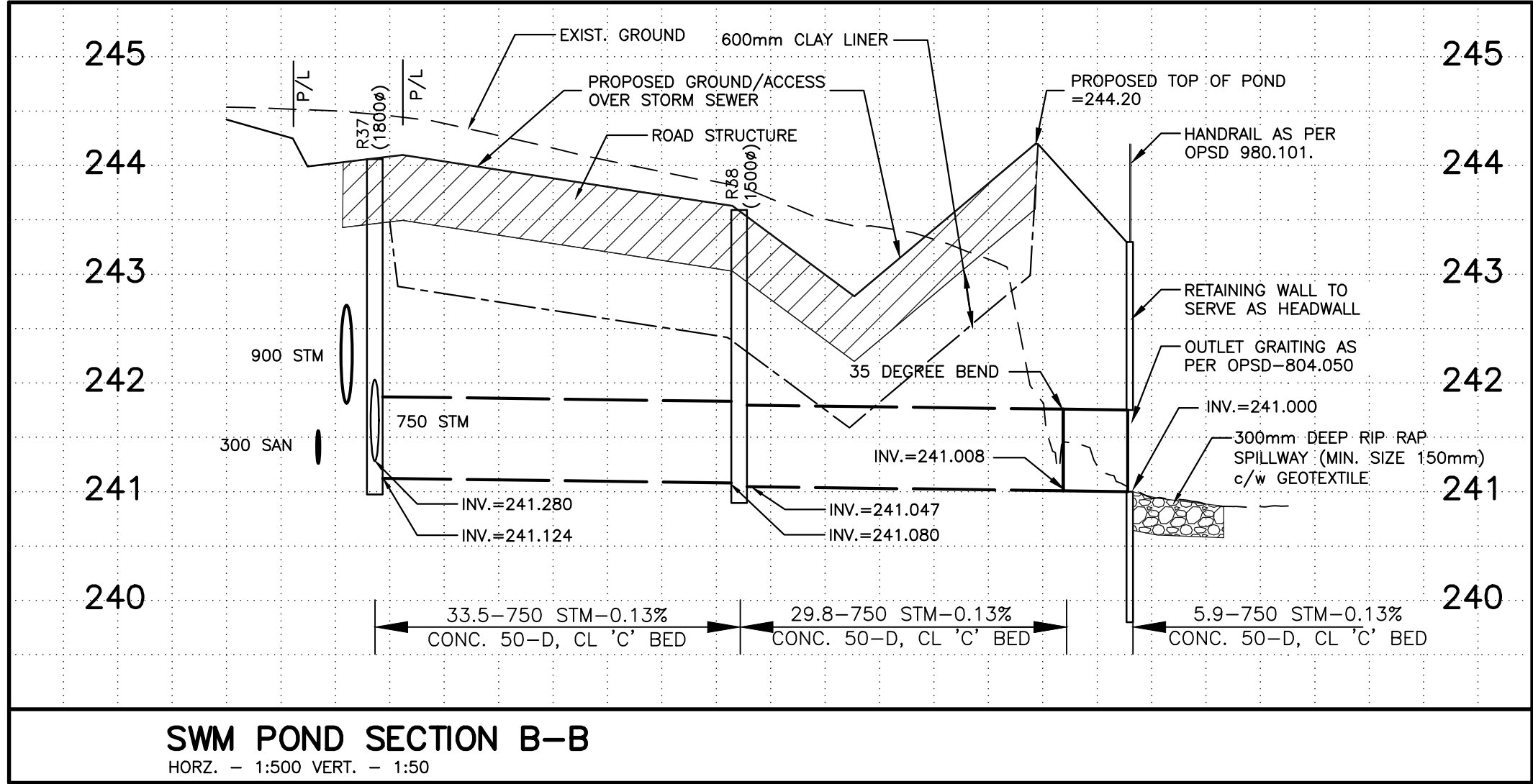
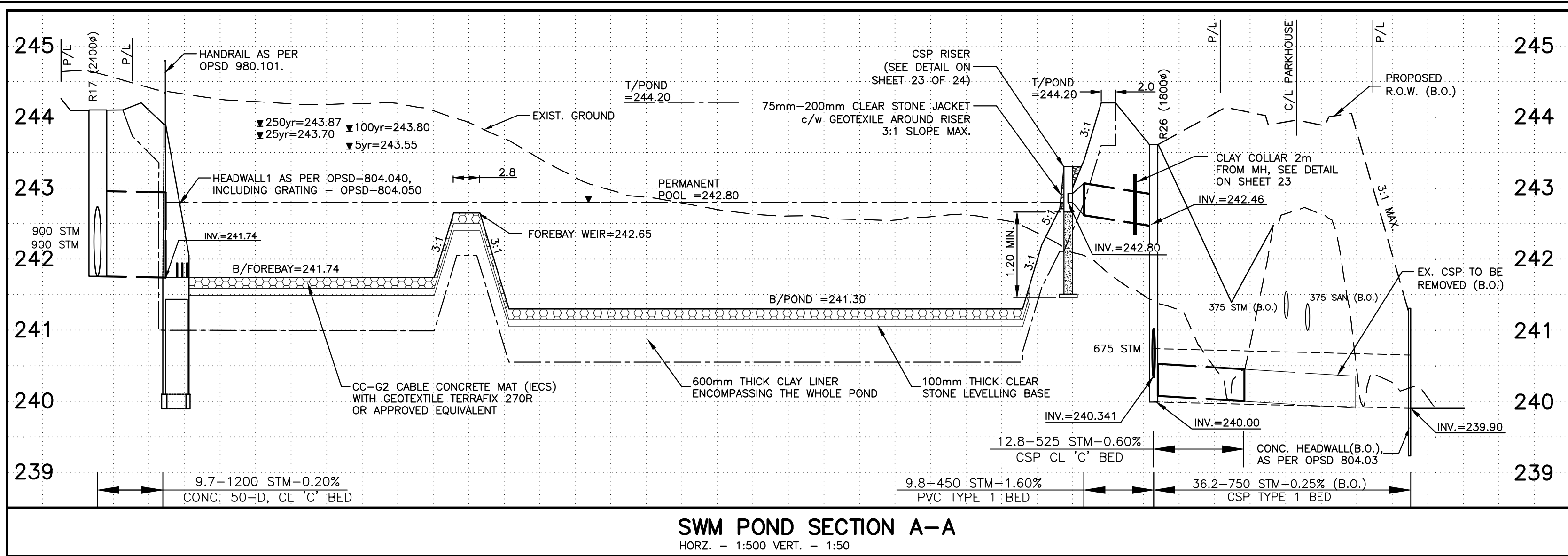
- Parkhouse Drive cost sharing for the Municipality's portion of the roadworks, which is funded through our DCs.

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



EXISTING SERVICES	DRAWING #, SOURCE	DATE	CONSTRUCTED SERVICES	COMPLETION	DETAILS	No.	REVISIONS	DATE	CONSULTANT	CONSULTANT OR DIVISION	ENGINEER'S STAMP	SCALE	TITLE	PROJECT No.
					DESIGN	1	AS PER SPRIET'S COMMENTS	OCT. 2019	LDS				EDGEWOOD SUBDIVISION	LD-00135
					DRAWN BY	2	AS PER SPRIET'S COMMENTS	MAR. 2020	LDS				1960726 ONTARIO INC.	
					CHECKED	3	REVISED SEWERS ON PARKHOUSE DR.	MAR. 2021	LDS					
					APPROVED	4	AS PER MUNICIPAL COMMENTS	AUG. 2021	LDS					
					DATE	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					

LDS

ENGINEER'S STAMP

A. H. GUBBELS

JUL 2024

PROVINCE OF ONTARIO

STRATHROY-CARADOC

URBAN OPPORTUNITY - RURAL HOSPITALITY

SCALE AS SHOWN

TITLE

EDGEWOOD SUBDIVISION

1960726 ONTARIO INC.

STORMWATER MANAGEMENT PLAN AND SECTIONS

PROJECT No.

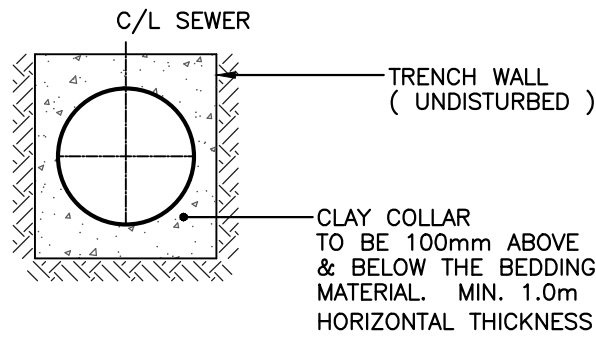
LD-00135

SHEET No.

22 of 24

PLAN FILE No.

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2024-07-15 15:10 PM BY: M. BRIDGES

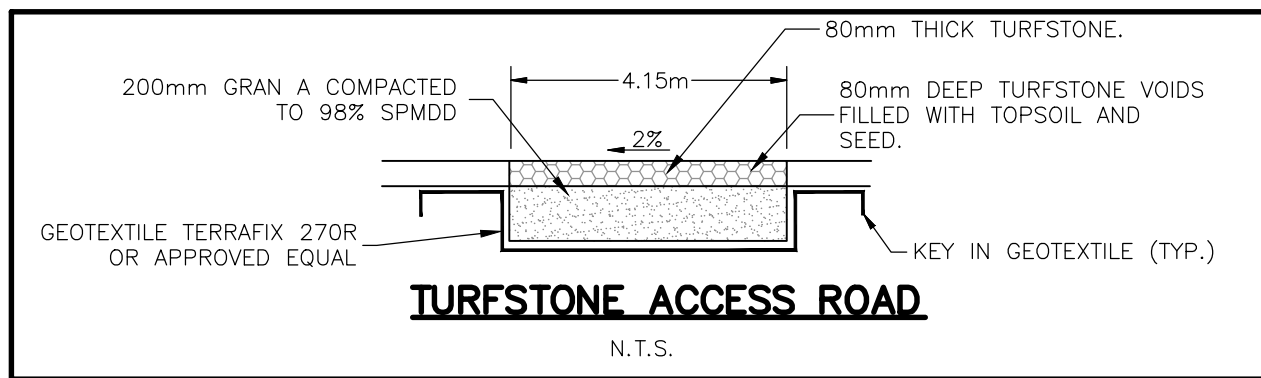


CLAY COLLAR DETAIL
N.T.S.

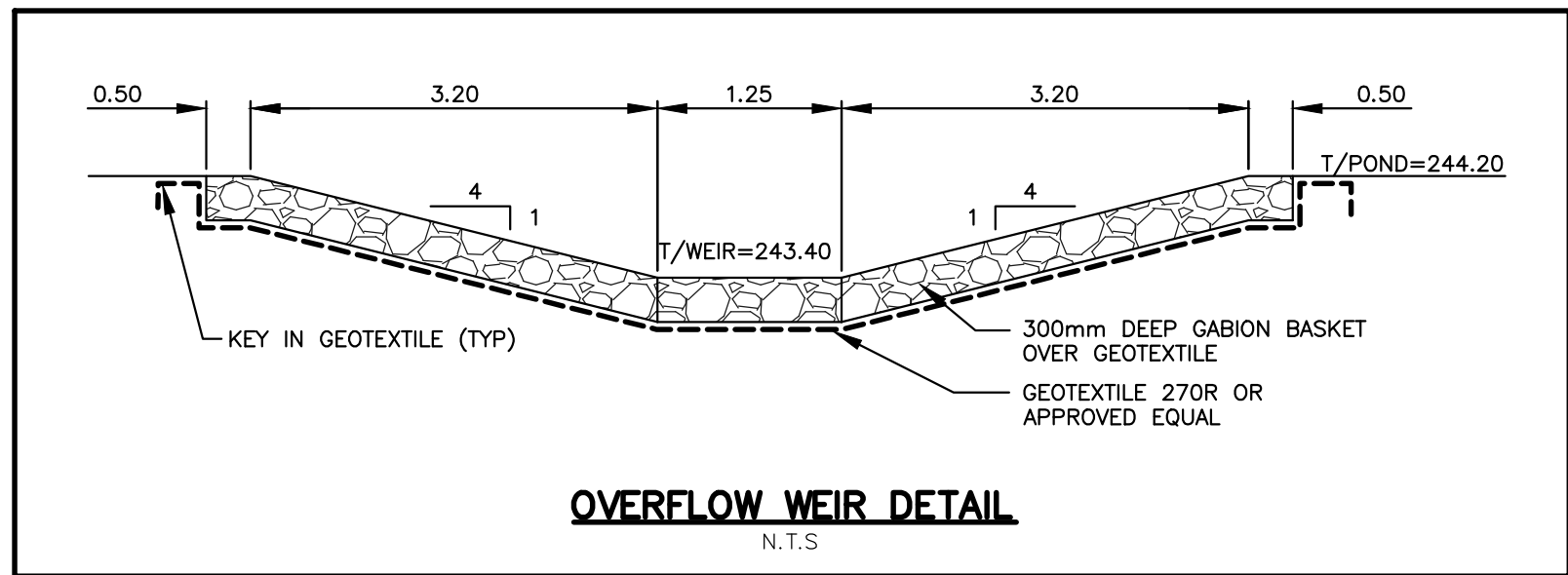
CLAY COLLAR/PLUG SHALL BE CONSTRUCTED OF PLASTIC SILTY CLAY WITH A MOISTURE CONTENT ABOUT 3% ABOVE OPTIMUM MOISTURE AS DETERMINED BY THE STANDARD PROCTOR DENSITY TEST.

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

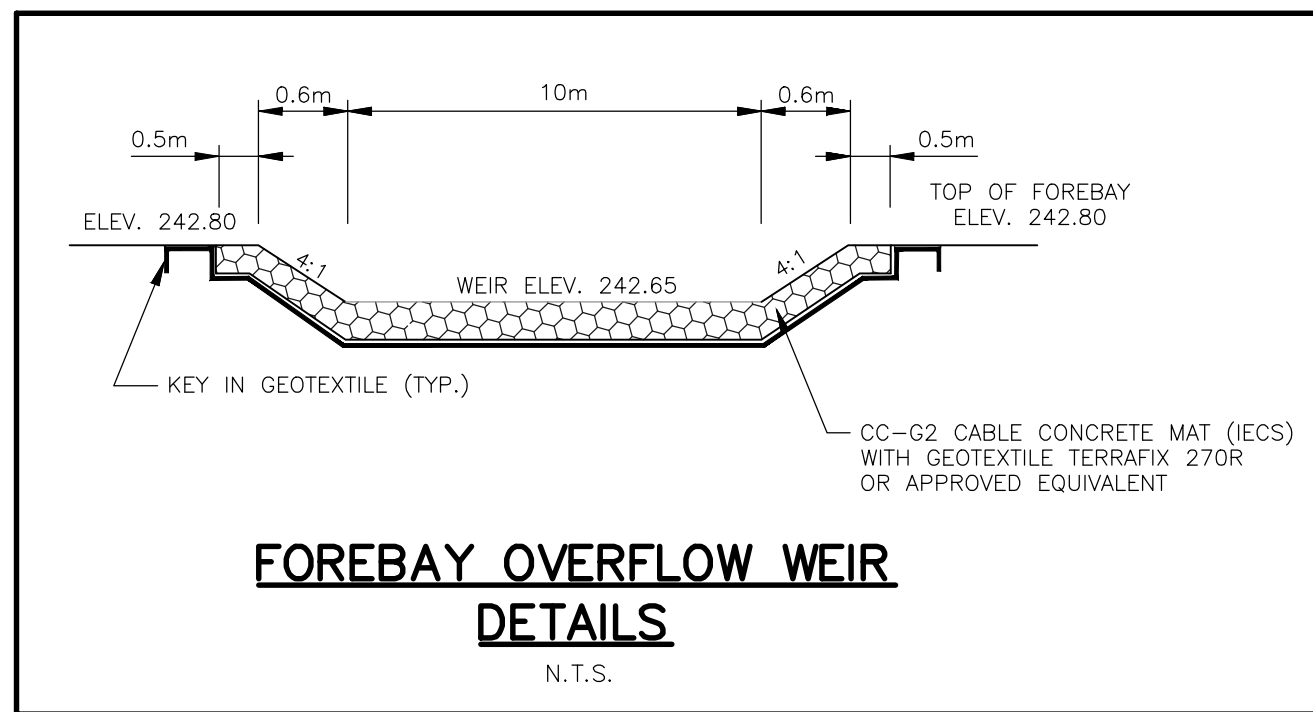
THE EXCAVATION AT CLAY COLLARS SHALL BE BACKFILLED WITH COMPACTED SILTY CLAY TO AT LEAST 98% STANDARD PROCTOR MEDIUM DENSITY TEST WITH THE MATERIAL SPECIFIED TO MINIMIZE SETTLEMENT.



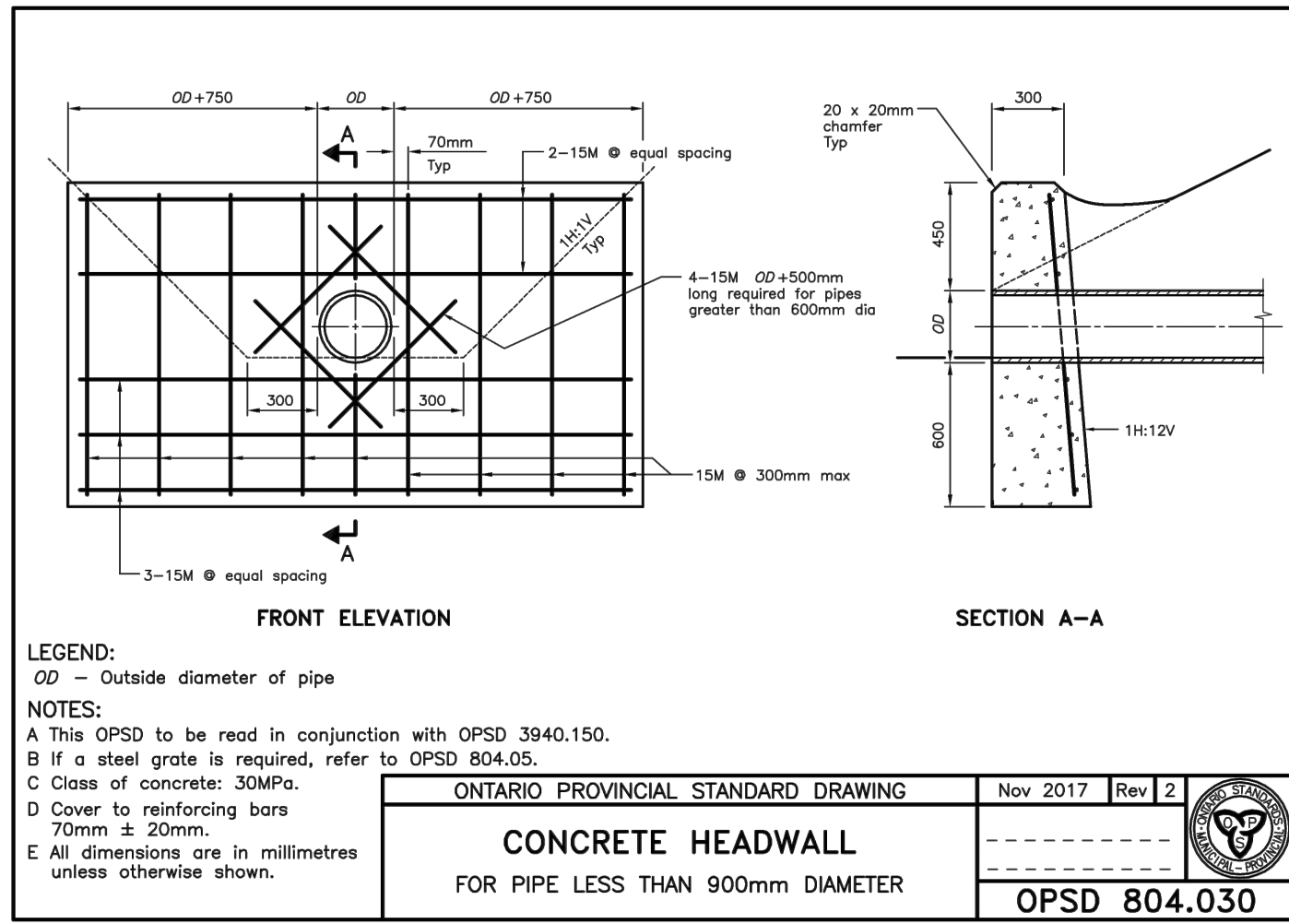
TURFSTONE ACCESS ROAD
N.T.S.



OVERFLOW WEIR DETAIL
N.T.S.

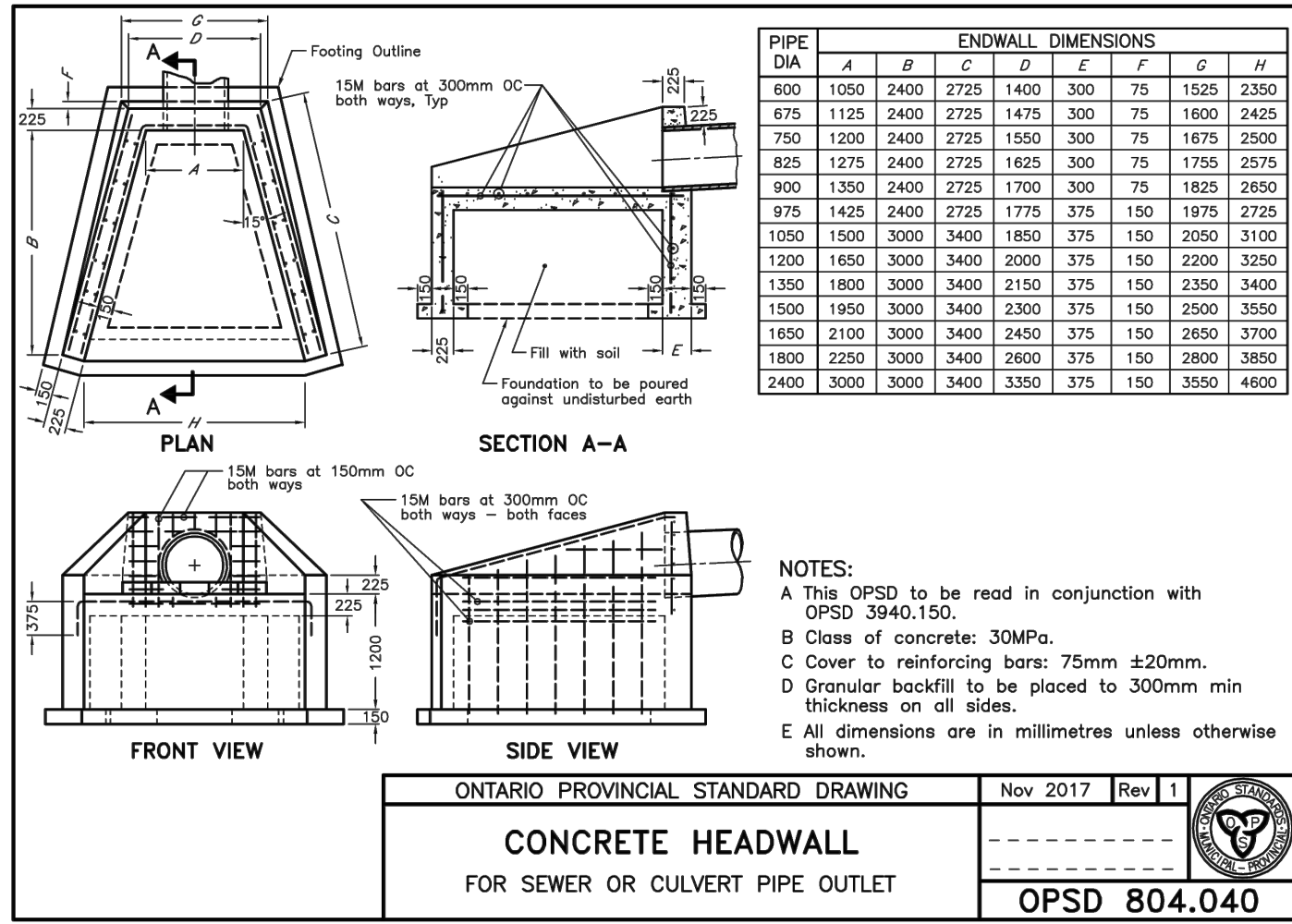


FOREBAY OVERFLOW WEIR
DETAILS
N.T.S.



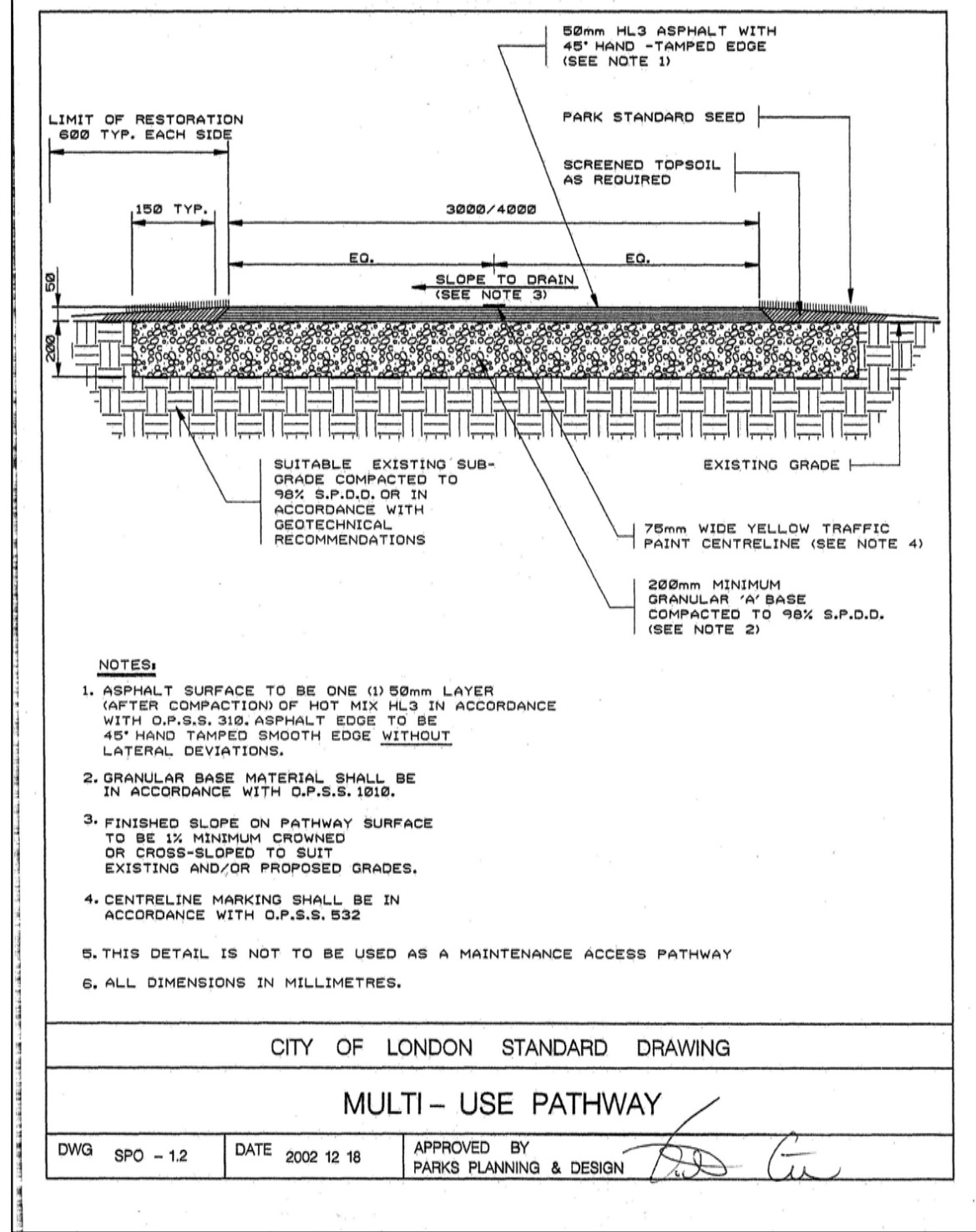
CONCRETE HEADWALL
FOR PIPE LESS THAN 900mm DIAMETER

OPSD 804.030



CONCRETE HEADWALL
FOR SEWER OR CULVERT PIPE OUTLET

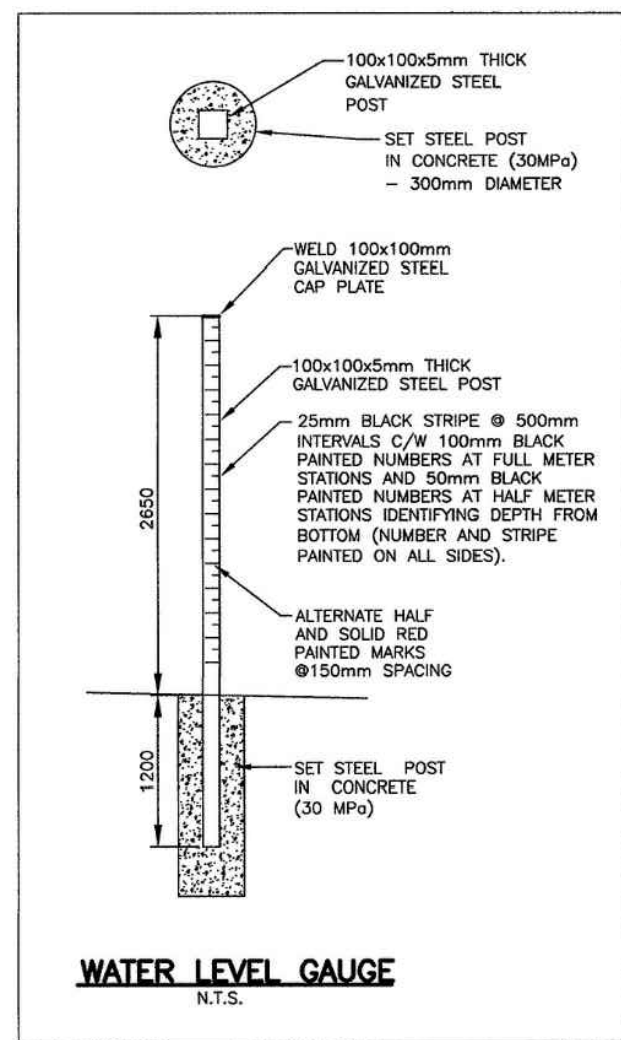
OPSD 804.040



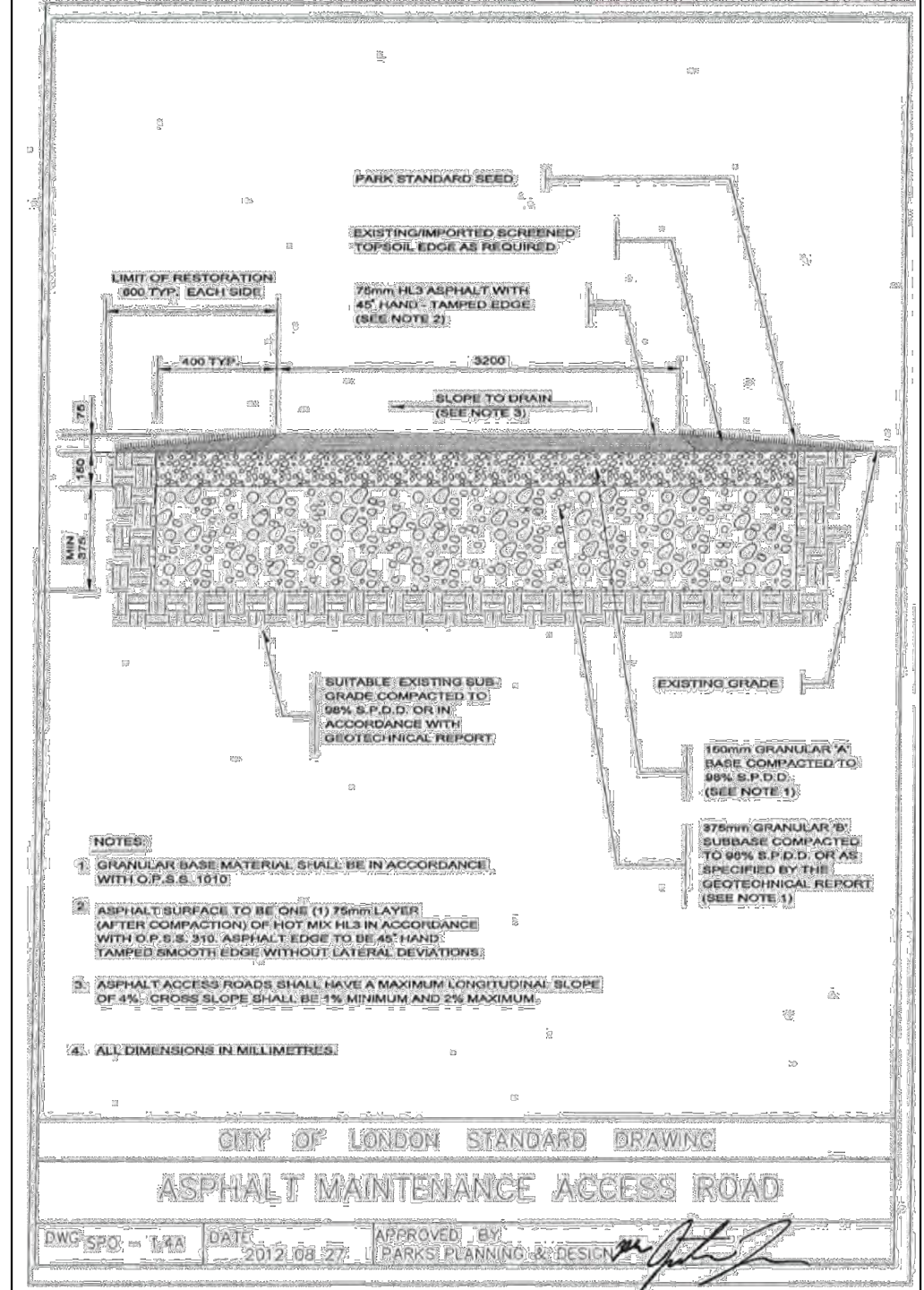
CITY OF LONDON STANDARD DRAWING

MULTI-USE PATHWAY

DWG SPO - 1.2 DATE 2022 12 18 APPROVED BY PARKS PLANNING & DESIGN



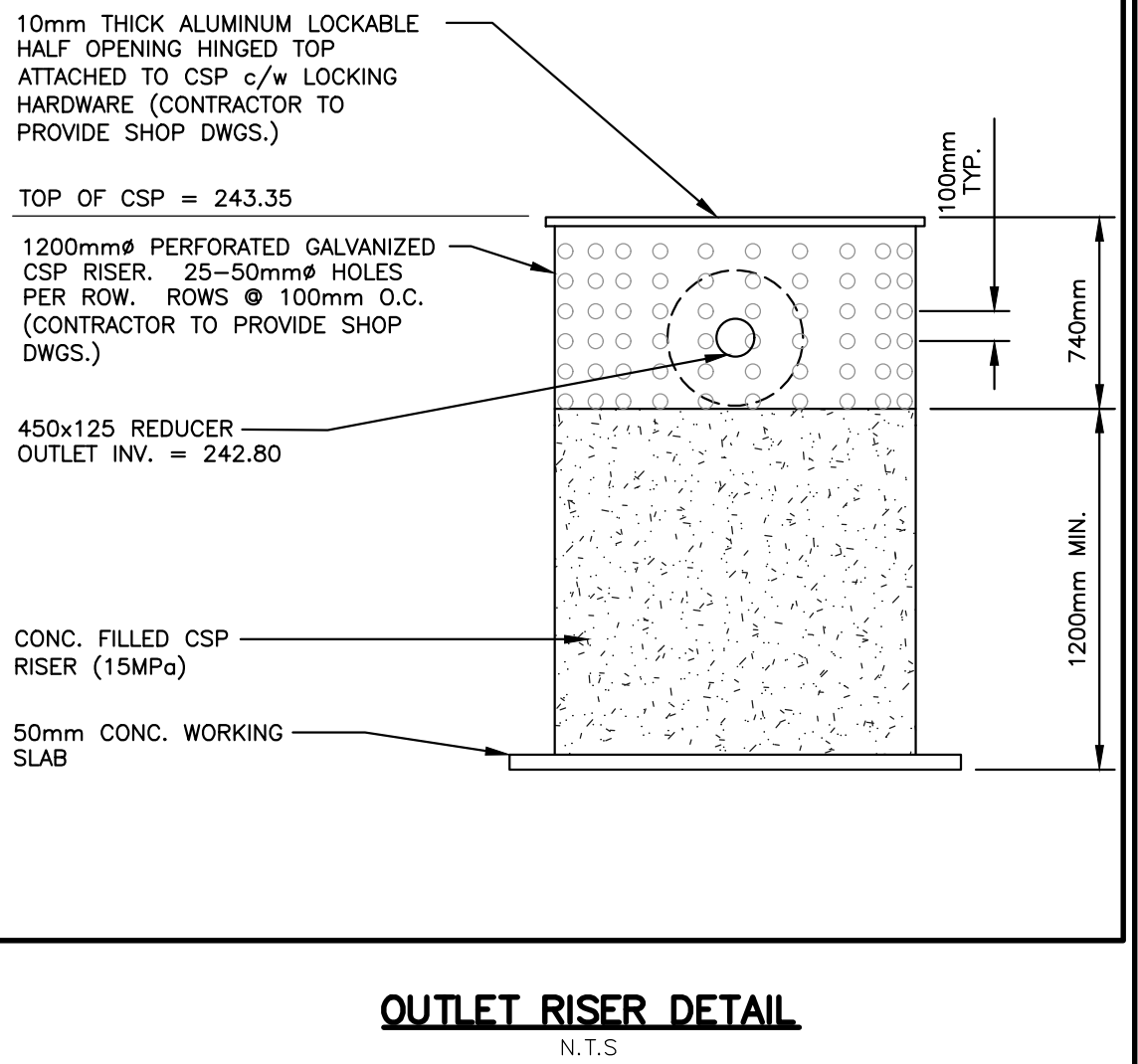
WATER LEVEL GAUGE
N.T.S.



CITY OF LONDON STANDARD DRAWING

ASPHALT MAINTENANCE ACCESS ROAD

DWG SPO - 1.2 DATE 2022 04 27 APPROVED BY PARKS PLANNING & DESIGN



OUTLET RISER DETAIL
N.T.S.

EXISTING SERVICES	DRAWING #, SOURCE	DATE	CONSTRUCTED SERVICES	COMPLETION	DETAILS	No.	REVISIONS	DATE	CONSULTANT	CONSULTANT OR DIVISION
					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
							9	AS PER MUNICIPAL/SPRIET COMMENTS	DEC. 2023	LDS
							10	REVISED DRAFT PLANS	JUL. 2024	LDS

LDS



SCALE AS SHOWN

PROJECT No. LD-00135
SHEET No. 23 of 24
PLAN FILE No.

LDS CONSULTANTS INC.

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